DATACENTER PHYSICAL SECURITY

Access and Egress Control Solutions

the lock behind the system

SDC
Security Door Controls

INTRODUCTION

A datacenter is a physical facility that houses a large collection of servers, storage devices, and networking equipment, designed to store, manage, and distribute data for organizations, enabling them to run large-scale applications and support AI and cloud computing services. Essentially, it's a **secure, centralized location** for processing and managing vast amounts of digital information.

Types of Datacenters:

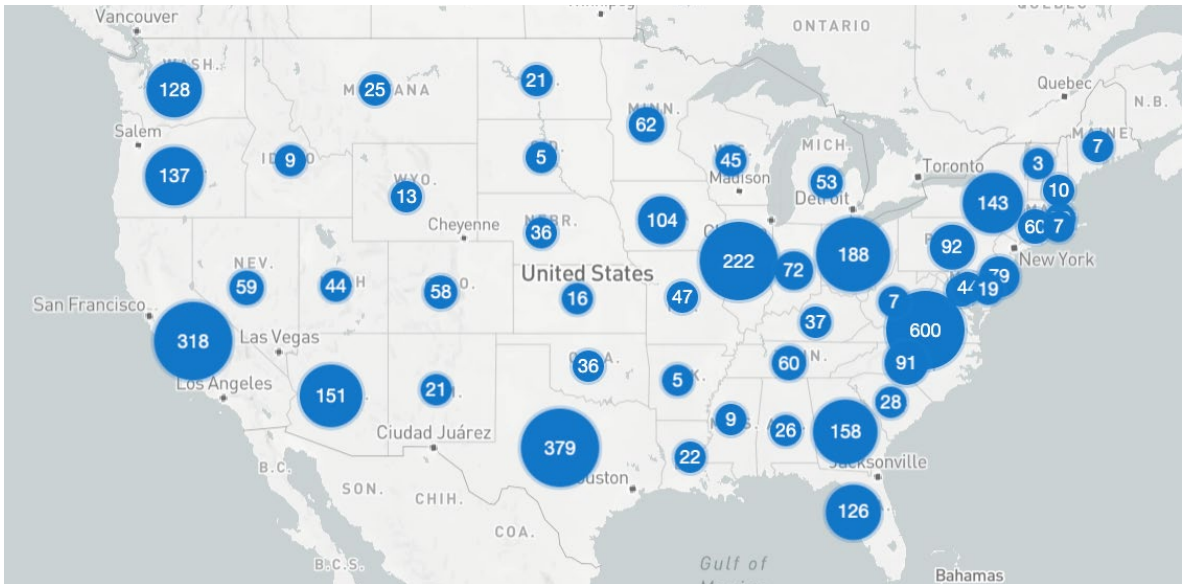
- **Enterprise Datacenter**: Owned and operated by a single organization to support its internal IT needs – like Google, Amazon, Microsoft and Meta.
- **Colocation Datacenter**: Allows companies to rent space within the datacenter to store their own servers and equipment.
- **Cloud Datacenter**: Operated by a cloud provider, offering virtualized computing resources on a pay-as-you-go basis.

Growth Trends for Datacenters in The U.S.

Today's data-intensive digital economy relies upon datacenters as the engine for growth. With the adoption of cloud computing and AI-enabled applications, the demand for large-scale datacenters to store and process data is exploding.

- By January 2025, the **U.S.** was the country with **the most datacenters** in the world - **5,381**[1]. At a projected CAGR (Compounded Annual Growth Rate) of **10.7%**[2] there will be an additional **3,500+ datacenters** in the U.S. by 2030.
- Construction of datacenters is increasing, with construction levels rising more than **sevenfold** in **two years**[3].
- Asking rents for datacenters have increased between **13% and 37%** year-over-year[3].

U.S. Datacenters – August, 2025[4]



[1] *https://www.visualcapitalist.com/ranked-the-top-25-countries-with-the-most-data-centers/*

[2] *https://www.grandviewresearch.com/industry-analysis/us-data-center-market-report*

[3] *https://www.jll.com/en-us/insights/market-dynamics/north-america-data-centers*

[4] *https://www.statista.com/topics/10667/data-centers-in-the-us/*

PHYSICAL SECURITY FOR DATACENTERS

For Architects, Design & Construction Firms, Contract Hardware Professionals, Security Integrators, and Owners/Operators of Enterprise, Colocation and Cloud Datacenters

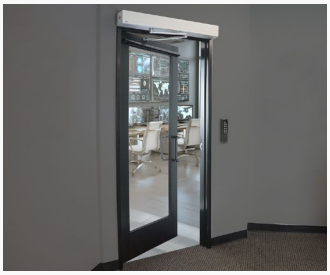
All datacenters require some form of physical access and egress door control solutions integrated into their security measures. The globally adopted **ANSI/TIA-942**[1] standard defines minimum datacenter design and installation guidelines as well as physical security measures, categorized into **four layers**: perimeter security, facility controls, computer room controls, and cabinet controls. Layering prevents unauthorized entry from outside into the datacenter. The inner layers also help mitigate insider threats.

Doors – The Last Line of Defense

No amount of perimeter intrusion detection, video analytics, network security, data encryption, multi-factor authentication or data backup is effective unless the last line of defense, the **doors to the facility - both exterior and interior** – are safe and secure. As the industry's door control experts, we've applied our decades of innovative and proven access and egress control expertise to the **physical security of datacenters** within **three specific sub-layers**. Our solutions are designed to mitigate risk while protecting people, property and assets – hardware, software, network and data – from burglary, theft, terrorism and other events that could cause damage to an enterprise or institution. Microsoft recently recognized our approach by integrating **SDC access and egress control hardware** for use in their datacenters.

1 PERIMETER DOOR CONTROLS

Perimeter Entrances/Exits to the Building - Staff, visitor control and after-hours security and accessibility are key to security and safety solutions for entrances.



2 FACILITY DOOR CONTROLS

Interior Openings to Facility Controls Center – Provide access control and audit capabilities for offices housing facility, network hardware/software monitoring and management.

3 CRITICAL COMPONENT DOOR CONTROLS

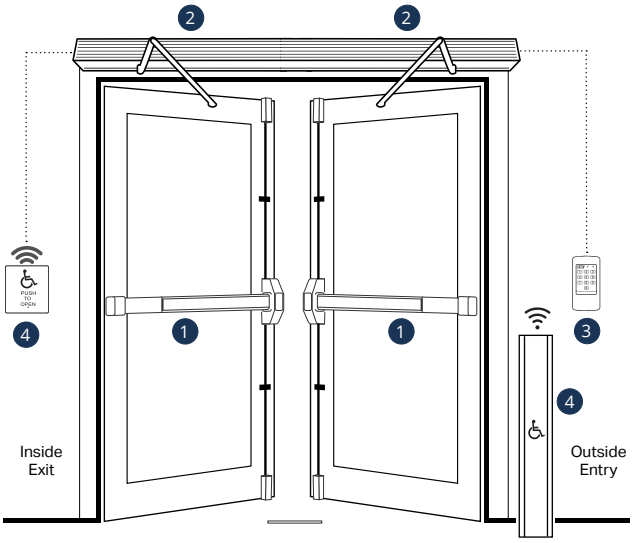
Server Rooms, Storage Systems, Network Switches, Cooling Systems, Power Generators - Prevent unauthorized access that could lead to vandalism, theft and non-compliance.

[1] *https://tiaonline.org/products-and-services/tia942certification/ansi-tia-942-standard/*

1 PERIMETER DOOR CONTROLS

How It Works

Visitor control and after-hours security and accessibility are the key benefits to providing a well-thought out security solution for datacenter entrances. During business hours, entrances must meet ADA requirements for access and egress. After hours, entrances must provide a secure point of entry and egress and limit uninhibited egress from the outside.



1 S6000 Series

Electrified Architectural Exit Devices

S6203PU36EEK	SVR, 36", ELR
S6203PU36LBREEK	SVR, 36", LBR, ELR
S6201PU36	SVR, 36"

- Electrified architectural design
- Panic and fire rated devices

2 AUTO Series

Low Energy Swing Door Operators

AUTOS136V	Push Arm, 36" Opening
AUTOS236V	Pull Arm, 36" Opening
AUTO-IR36Y	Presence Sensor

- Single button, self-tuning setup
- Built-in 1 Amp power supply
- Onboard lock sequencing

3 920 Series

Indoor/Outdoor Digital Keypads

920	Self Contained
920P	Self Contained w/Prox
920PW	Weigand Output

- Single gang wall or surface mount
- Heavy cast vandal resistant housing
- 500 users

4 BP Series

Square Bollard Posts

BPS6SV	Surface Mount, Plate Prep
BPS6PV	Surface Mount, Panel Prep
BPG6SV	In-Ground, Plate Prep

- 6" square with ⅛" walls
- Black HDPE mortised removable cap
- Secure transmitter mount

SELECT ONE

4 480-KIT Series

Wireless Push Plate Kits

482S-KIT	Square Plates
482R-KIT	Round Plates
482S-CBCKIT	Square High-Low Plates

- SPDT push plates
- Surface mount boxes
- Wireless transmitters and receiver

4 480AA Series

Push Panels

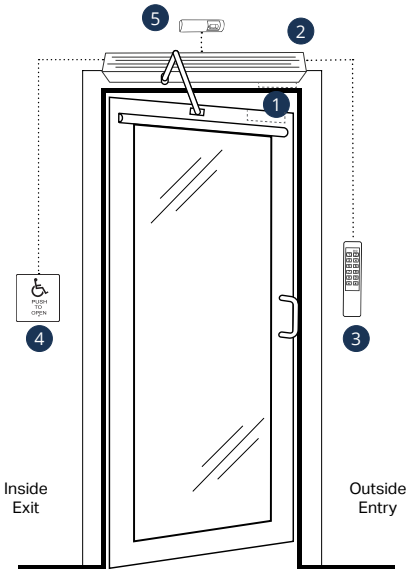
482AA36V	SPDT, 36" x 6"
484AA36V	DPDT, 36" x 6"

- No square edges to snag
- Impact and vandal resistant
- Bollard or wall mount

2 FACILITY DOOR CONTROLS

How It Works

Delivers access control and audit capabilities for interior offices housing network hardware/software and provide security for staff while on premises. Ensures safety standards compliance while limiting access by unauthorized personnel.



1 1560 Series

Electromagnetic Shear Locks

1561ITC	2000lbs, ITC
1565ITC	2700lbs, ITC
1565ITCD	2700lbs, ITC, DPS

- Fully concealed mortise design
- Floating armature assembly
- Special alloy steel shear tabs

2 AUTO Series

Low Energy Swing Door Operators

AUTOS136V	Push Arm, 36" Opening
AUTOS236V	Pull Arm, 36" Opening
AUTO-IR36Y	Presence Sensor

- Single button, self-tuning setup
- Built-in 1 Amp power supply
- Onboard lock sequencing

3 923 Series

Indoor/Outdoor Digital Keypads

923	Self Contained
923P	Self Contained w/Prox
923PW	Weigand Output

- Narrow surface, mullion or frame mount
- Heavy cast vandal resistant housing
- 500 users

4 480 Series

Push Plate Actuators

482A4U	Square, SPDT
484A4U	Square, DPDT
482A4RU	Round, SPDT

- PUSH-TO-OPEN
- Recessed, surface and bollard mounting

5 MD-31D Series

PIR Motion Sensors

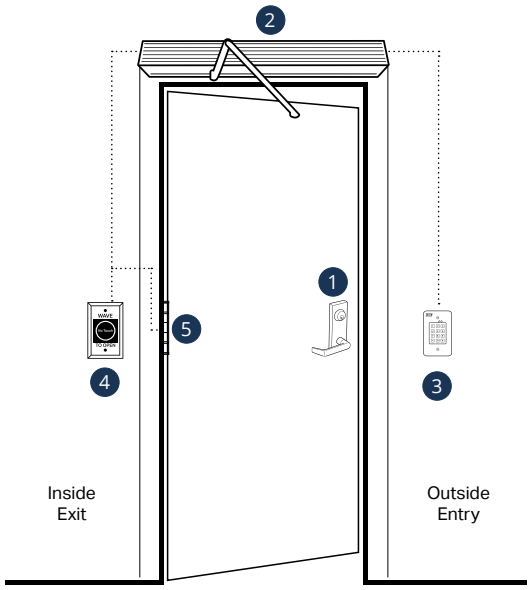
MD-31DOW	White
MD-31DB	Black

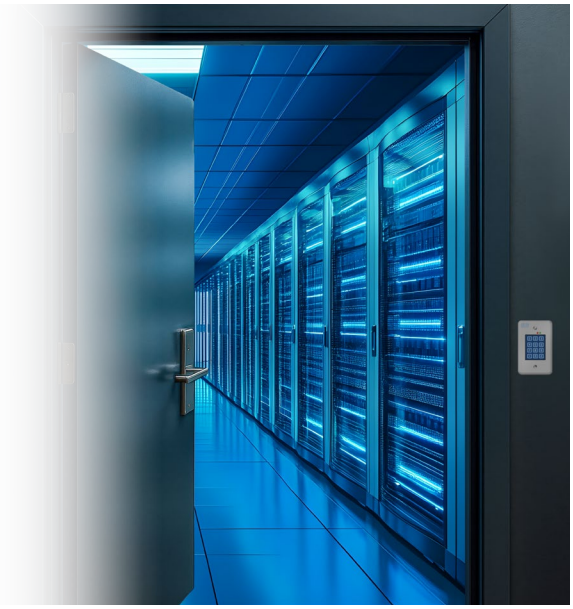
- Passive infrared detection
- Adjustable relock time delay (RTD)
- Meets code compliance

3 CRITICAL COMPONENT DOOR CONTROLS

How It Works

Preventing unauthorized physical access to critical, secure areas housing servers, storage, and other equipment essential to operations in a datacenter facility is the key to all other IT security measures. Using access and egress controls to apply the principal of least privileges is appropriate.





1 7700 Series

Motorized Latch Retraction & Solenoid Controlled Mortise Locks

Z7752LQE	Locked Outside Only, Failsecure
Z7750LQE	Locked Outside Only, Failsafe

- Heavy duty mortise design
- New or retrofit construction
- Vandal resistant clutch

2 AUTO Series

Low Energy Swing Door Operators

AUTOS136V	Push Arm, 36" Opening
AUTOS236V	Pull Arm, 36" Opening
AUTO-IR36Y	Presence Sensor

- Single button, self-tuning setup
- Built-in 1 Amp power supply
- Onboard lock sequencing

3 918 Series

Indoor Digital Keypads

918U	Self-Contained
918WU	Weigand Output

- Single gang wall or surface mount
- Tamper-resistant screws
- Selectable audible level tactile keys

4 470 Series

No Touch Switches

474U	Single Gang
474DU	Double Gang
474MU	Single Gang, Manual Override

- WAVE-TO-OPEN
- IR sensing technology
- Illuminated dual LED sensor (red/green)

5 PTH Series

Electrified Power Transfer Hinges

PTH-4Q	Four Conductors
PTH-2+4Q	Six Conductors
PTH-10Q	Ten Conductors

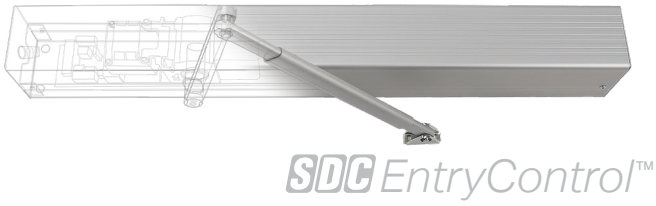
- 4½" x 4½"
- 5' wire cable
- Wire replacement warranty

ESSENTIAL COMPONENTS FOR DATACENTER SECURITY

AUTO Series

Low Energy Swing Door Operators

SDC's AUTO series low energy swing door operator with **built-in 1 amp+ power supply** provides the ability to power motorized ELR without a separate power supply to integrate easily with popular access and egress control hardware.

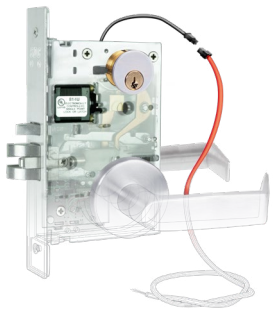


The AUTO series low energy swing door operator provides convenient, **hands-free, low-power point of entry door control** for low-power retrofit of any building entrance with an exit device. The state-of-the-art microprocessor-based unit is self-tuning and self-learning while offering non-handed operation, full mechanical stops and a variety of interface options for sensors, push plates, fire alarms and electrified locks.

SDC operators feature fast, single technician installation pre-drilled mounting holes and a fixed mounting bolt for hanging the drive unit. They are the perfect product to meet US and Canadian disability compliance for door installation in datacenters.

7700 Series

Motorized Latch Retraction & Solenoid Controlled Mortise Locks

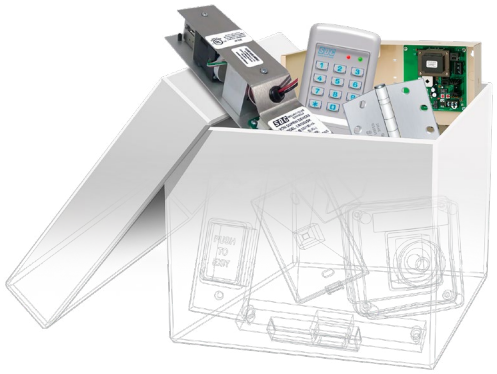


Motorized ELR mortise locksets provide for the access control of openings in commercial, industrial and institutional facilities where code compliance, dependable operation and resistance to physical abuse are required. These code compliant electric mortise locksets **stay latched even when unlocked**, maintaining fire door integrity.

SDC's 7700 series motorized ELR and solenoid controlled mortise locksets incorporate a grade 1 heavy duty mortise lock and vandal resistant clutch that is proprietary to all SDC locksets. The motorized ELR feature is designed for use on fire rated doors to provide access control and building and fire life safety compliance. Door stays latched even when de-energized. **Ideal for automatic door operator applications**. The solenoid controls the inside, outside or both door levers. The motorized ELR and solenoid operate independently to control features combine versatile passage functionality with failsafe or failsecure access control while meeting ADA compliance. All SDC mortise locks feature a mortise cylinder to manually retract the latch.

BRINGING ELECTRONIC ACCESS CONTROL TO THE DOOR

When it comes to implementing electronic access control in datacenters, **security**, **life safety** and **accessibility** are paramount. Asking the right questions is essential – whether in a new construction or a retrofit project – to reducing cost and minimizing liability.



SDC is known as the door control opening experts, with more than 40 patents, 20+ active trademark brands and decades of product design firsts. Our locking systems can be found in virtually any application where access control of a door is required. We're particularly adept at new or retrofit applications of 1 – 10 doors, where 80% of the security door and hardware market exists. We provide peace of mind and savings through:

- Lower installation costs
- Fewer callbacks, increased longevity
- RealHumanSupport™ – no phone trees, no chat bots, never artificial

Determining the best suited electronic access control (EAC) solution is fundamental to security and life safety for your datacenter. (Fig. 1)

EAC COST, LIABILITY & APPLICATION CONSIDERATIONS

Product Availability Budget Requirements • Timing/Delivery affects cost • Good, Better, Best Solutions to match project budget	**New Construction or Retrofit** • Single or multi-door • Standalone or integrates into EAC system/network
Life Safety Codes • City • State • National • Local Juristiction	**Type of Door & Frame** • Aluminum • Off-set • Center Hung • Slide or Swing
Level of Security • High Security - Failsecure • Low Security - Failsafe • Monitoring Features	**Aesthetics** • Concealed • Surface Mount • Architectural Housing • Available Finishes

Figure 1

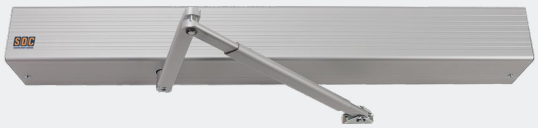
IDENTIFY THE ACCESS CONTROL SOLUTION

How will access be controlled?

In the old mechanical days, staff employees were given a key the facility and doors were manually unlocked during business hours. Today, an **easy way to provide EAC** now is by installing a **keypad and/or reader at the door** to control who can gain access by requiring a pin code, swiping or placing a credential near the reader, or using a smartphone. Keypads and readers come in standalone models or with outputs to connect them to an access control system – and usually unlock some type of electric locking hardware to gain entry.

Convenience with Compliance

Low energy automatic door operators provide both **convenience** and **compliance** at points of access and egress within public buildings: retail storefronts, office buildings, campuses and healthcare facilities. When combined with ADA compliant actuators – like wireless and hardwired Push Plate Switches to activate the door opener – low energy automatic door operators can **provide an intelligent security solution for datacenter entrances**. They combine **ease of use** and **accessibility** during business hours and limit egress from the outside for **after-hours security**. They also **ensure compliance** with the Americans with Disabilities Act (ADA), a civil rights law guaranteeing equality for people who are physically handicapped or disabled.



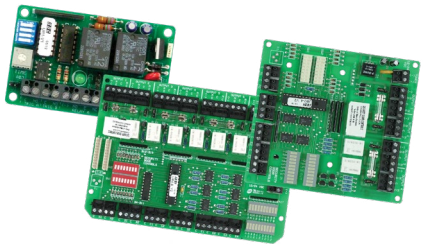
Identify the Power & Door Control Solution

What lock will secure the opening?

Electric locking hardware comes in a variety of application configurations to meet local, regional and national fire and life safety code requirements. From electromagnetic locks, electric strikes, electrified locksets to electric bolt locks, and others, there's an EAC solution to meet just about any need to secure a door.

How will the door be controlled?

Hardware control and **door control modules** are offered by many manufacturers to control separate electrified locking devices, multiple doors, relay operating and system modes for lock control, monitoring, communicating door and lock system logic. They are normally installed in the power supply cabinet and provide a **centralized wiring location**, **simplify installation** and **provide easy troubleshooting**.



BASIC EAC QUESTIONS

As a datacenter owner/operator or facility manager, you should be aware of some basic questions to address before embarking on any EAC door solution project. The following are just a starting point for consideration and apply equally to new construction and retrofits. The reality is that there are a series of comprehensive **quantitative** and **qualitative** questions to answer – too numerous to review here. We recommend you work with experienced, door and access control professionals to ensure you receive the best EAC solution for your particular requirements.

What's the Access Control Objective?

First, you will need to understand what the access control objective is for the door – **security, life safety, ADA accessibility** – or a combination of each. Don't forget to consider if your EAC solution needs to integrate with other technologies to maximize the benefit.

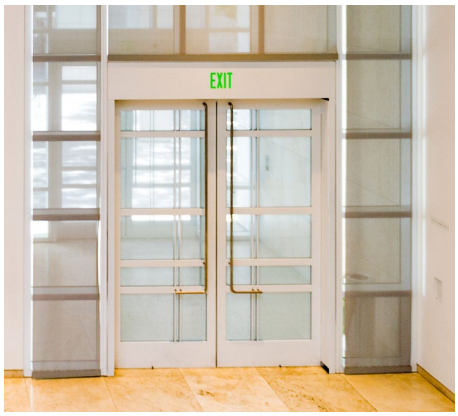
What are potential liability issues to avoid?

You or your EAC specifier/installer should know and understand the products being installed or specify a preferred manufacturer yourself. Request that details about product and application code compliance are supplied with the installation bid. This information may be a deterrent to having an inspector reject an installation today, or even at a later date when code changes take effect. Additionally, non-compliance of components could lead to potential liability should a fire or life safety emergency occur in your facility.

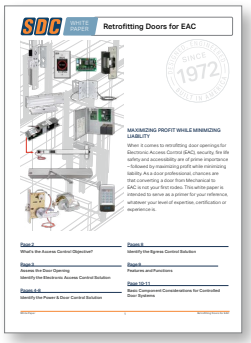
What Service Does the Door Opening Provide?

Make sure you understand how the EAC solution you have identified matches the service the door opening provides. Typical door opening service types might include:

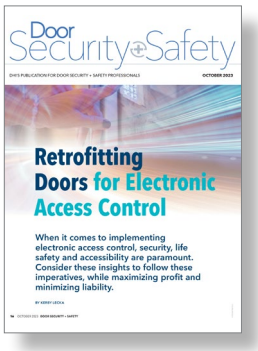
- Public or private access
- Single or multi-directional traffic control
- Restricted access or egress
- Frequency of use
- Designated egress or fire exit door
- ADA accessibility
- Traffic categories dictating special consideration, and more



For more in-depth references of best practices for EAC door solutions, check out:



1. "Retrofitting Doors for EAC" – SDC white paper www.sdcsec.com/docs/whitepapers-EACretrofitting



2. "Retrofitting Doors for Electronic Access Control" – Door Security & Safety Magazine, October, 2023 www.sdcsec.com/DS&S-EACretrofitting

RESOURCES

CBRE Research

https://www.cbre.com/insights/reports/north-america-data-center-trends-h1-2024

International Society of Automation

https://www.isa.org/intech-home/2020/march-april/departments/physical-security-of-a-data-center

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Cloudscene

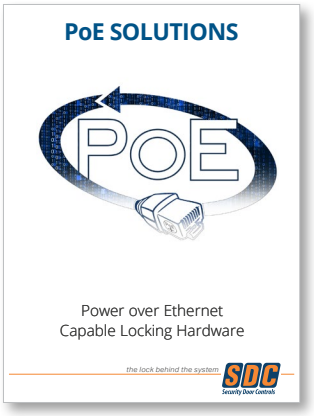
Datacenters in the United States

https://cloudscene.com/market/data-centers-in-united-states/all

Dgtl Infra

United Stated Datacenters:
Top 10 Locations in the USA

https://dgtlinfra.com/united-states-data-centers/



PoE Solutions Brochure

Power over Ethernet
Capable Locking Hardware

www.sdcsec.com/PoE

Access & Egress Security Solutions Brochure

Common PoE application solutions can be found on pages 18 and 19.

sdcsecurity.com/Solutions-Brochure