



A new generation of hardened managed switches featuring built in security capabilities

- Intelligent endpoint monitoring
- Traffic inspection software engines
- Flexible installation and port allocation options
- High-power PoE support
- The ideal solution for physical security and safe-city applications

D-Cybersafe

*A new standard in cyber
Security Switches*

The Problem

Today, more and more physical security systems are connected to communication networks for monitoring and control. This connection leaves the physical security systems vulnerable to cyber-attacks, threatens national security and impacts public safety.

Rapidly increasing attacks on physical security systems and SCADA networks deployed in critical infrastructure facilities make the need for a comprehensive solution essential - a solution that will cover a broad range of physical and logical threats.

There are many new hazards that result from institutions' use of a growing number of physical security elements.

Surveillance cameras, access control systems, sensor and controller are all connected using TCP/IP and networking technology and rely on unsecure communication networks that are laid across the site and in the field. The use of these unsecure networks exposes the site to combined cyber and physical attacks:

- Video streams from surveillance cameras can be replaced or manipulated.
- Access control systems can be hacked to open gates and doors.
- Perimeter security sensors and controllers can be disabled or blinded.
- Industrial controllers and power distribution systems can be taken over and damaged.

The solution

D-FENCE'S D-CYBERSAFE - an Industrial Secure Managed Switch - is specifically designed as the ultimate solution for physical security networks, SCADA based systems, and safe-city applications. D-Cybersafe provides ironclad security with full control and customizable networking capabilities.

Cutting edge hardware, coupled with network intelligence and policy enforcement software engines, offer an effective tool for securing and hardening your sites and installations.

Use D-Cybersafe as the building block for field and physical security communication networks.

Enhance your infrastructure safety with its key features:

- Rugged hardware, designed to withstand tough environmental conditions.
- Fiber optic and RJ45 ports with high power PoE capabilities simplify the installation.
- Increase switch functionality in order to minimize the numbers of devices in the field - and get rid of potential failure candidates, such as media converters, power supply and injectors, serial device servers, I/O controllers, etc.
- Continuously monitor and analyze the data traffic of all the elements and at all the points in the network.
- Protect not only the servers or the network, but also the elements in the field against cyber-attacks and exploits.

Uncompromised security



Located everywhere in the network, D-Cybersafe acts as a powerful security policy enforcement tool, allowing you to:

- Detect and identify every element and endpoint in the network
- Alert or block any attempt to connect an unauthorized device to the secured network
- Inspect the incoming and outgoing traffic, at port level, to make sure that only known, safe, and identified traffic, from authorized entities, is allowed
- Detect Layer2 and Layer3 cyber-attacks: CAM overflow, ARP spoofing or poisoning, IP address spoofing, Stream and video hijacking, Spanning-Tree Protocol manipulation, Denial of services.
- Report, and take automatic action to restore the continuous operation of the network
- HW protection makes the switch policy enforcement tamper proof.



HIGH AVAILABILITY

Simplify the deployment, minimize down time, and cut costs with a built-in uOTDR (Micro Optical Time Domain Reflectometer) that constantly monitors the fiber optic condition.*Industry standard Ethernet Ring Protection Switching (ERPS) G.8032 / Y.1344 protocols allow close to zero restoration time for both copper and fiber failures with minimal packet loss.

FLEXIBILITY

A combination of 10/100/1000 copper Ethernet ports and fiber (SFP) slots cover a wide range of installation requirements.

D-Cybersafe support classic star topologies as well as redundant ring topologies.

*A dedicated external serial port (RS232, RS422, or RS485) - enables connecting legacy devices.

Dry contact input and output can be used to monitor discreet sensors or environmental conditions, and activate external devices such as a horn or warning lights.

Both DIN-rail or wall-mount installation options are supported.

RUGGEDNESS

A heavy duty aluminum die-cast casing is designed for optimal heat dissipation. The D-Cybersafe complies with industrial temperature rating and a wide DC input voltage range.

MONITOR AND CONTROL

Fully control the network with real-time alerts on any exception from policy, configuration, traffic behavior or protocol anomalies. Accurately locate of the device's physical whereabouts and port information. In cases of protocol anomalies, D-Cybersafe will also log the traffic for retroactive analysis.

CUSTOMIZATION

Easily configure your system at the port, traffic and data levels. Administrators can define site-or equipment-specific policies or use the built-in templates.

POWER OVER ETHERNET

D-Cybersafe is fully compliant with IEEE 802.3af, IEEE 802.3at 2-event or LLDP standards and supports forced-mode powering for compatibility with legacy devices.

Save on costs, size and avoid cumbersome and bulky installations or external costly injectors with Power Sourcing Equipment (PSE) capabilities and 60W per port PoE. Configurable port priority and power budget ensure that end devices are powered based on a correct and safe priority scheme.

Technical Specifications & Features

FEATURES	DESCRIPTION
Power Supply	
DC feed	24V (+18Vdc to +36Vdc), 48 (+36Vdc to +72Vdc), 54Vdc. Redundant power inputs
Power Consumption	Up to 255W depending on attached PoE devices
PoE	2 x 60W per port (Ultra PoE). 4 x 30W per port (IEEE 802.3af/IEEE 802.3at)
Environmental Info	
Operating temperature	-40oC to +75oC (no fans)
Storage temperature	-40oC to +85oC
Relative humidity	5 to 95% non-condensing
Dimensions	200mm x 110mm x 150mm (H x W x D)
Enclosure	Aluminum die cast for improved heat dissipation. IP-40 Protection
Environment	RoHS compliant
Interfaces	
Copper Ethernet	8 x 10/100/1000Mbps auto-negotiate ports
Fiber Ethernet	4 x SFP ports including 100/1000Mbps support with Digital Diagnostic Monitoring
Console port	RS232 port using Cisco CLI pin-out for local access
*External UART	Dedicated RS232/422/485 interface for remotely accessing legacy equipment
Discrete I/O	Discrete digital input and dry contact relay output for connecting to external sensors or actuators
Configuration freeze	Hidden pushbutton for setting the unit to read only mode and block any possibility of remote configuration change
Switch	
Engine	Jumbo frame support. IPv4/IPv6 multicast. 4Mb packet memory. 8192 MAC addresses
QoS	8 priorities + 8 CoS queues per port. Strict or Weighted Round Robin scheduling
VLAN	IEEE802.1Q VLAN with 8K MACs and 4K VLANs
STP	RSTP (Rapid Spanning-Tree) and *MSTP (Multiple) support
Snooping	IGMPv2 and IGMPv3. MLDv1 and MLDv2
*Access control	IEEE 802.1X
*Security	Radius and TACACS+
Management	
GUI	HTTP/HTTPs server
SNMP	SNMPv1/v2/v3 agent
CLI	Telnet/SSHv2
Alerts	SNMPv1/v2/v3 agent
RMON	RMON Group 1, 2, 3, 9
Access list	Restricted access to management info
Backup & restore	Configuration download or upload
IP configuration	Static or using DHCP
Compliance	
IEEE 802.3	IEEE 802.3vb, IEEE 802.3u, IEEE 802.3x, IEEE 802.3z, IEEE 802.3ab, IEEE 802.3af, IEEE 802.3at, IEEE 802.3ultra-at, IEEE 802.3i, IEEE 802.3z
Regulation	CE, FCC, VCCI, UL
Isolation	2.1 KVDC, ESD: 15KV, Surge: 4KV, EFT: 4KV
Safety	EN60950-1:2001
EMC	EN61000-6-3:2007, EN55022, EN61000-6-2:2007, EN55024
Utility Substations	IEEE 1613, IEC 16850-3

Items marked as * are future features. All specifications in this document are subject to change without notice.

D-Fence Electronic Fencing & Security Systems Ltd.

www.d-fence.com



D·FENCE
www.d-fence.com

D-Fence Offices

Headquarters

Eitan 51, Nir Tzvi 7290500, Israel

Phone: +972-8-9256257

Fax: +972-8-9256442

E-Mail: dfence@d-fence.com

China

Office 806, Building C, XEDA

Sci-Tech Park, Xiqing District, Tianjin

Phone: +8615922228832

E-Mail: eden@d-fence.com

USA

#90 Mill St., Newton, MA 02459

Phone: +1-617-4552888

E-Mail: ran@d-fence.com

