# nuclias

People simply want things to work as they should, and network management is no exception. D-Link designed Nuclias to be a networking solution with a simple and user-orientated design, packed with rich features and functionality, designed to address the needs of everyone.

## nuclias cloud

### Simplicity

Nuclias Cloud allows any organisation with any level of IT resource to quickly and easily set up, configure, monitor, troubleshoot, and manage their network deployment remotely through a web browser, or the dedicated Nuclias tablet app.

**Zero-Touch Deployment**
Zero-touch deployment and reduced installation and configuration costs thanks to a centralised, profile-based cloud management system.

**Hassle-Free Management**
Nuclias Cloud is a turnkey solution with simple installation and management, designed to work even if the connection to the cloud is interrupted.

**Unlimited Scalability**
Suitable for small branch offices to large networks, Nuclias Cloud provides unlimited capacity and uncompromised throughput with its low in-band data management footprint.

### Main features

- Zero-touch provisioning
- Role-based administration
- Auditable change logs
- Authentication via customisable captive portal, 802.1x and RADIUS server
- Social login for Wi-Fi access supported
- Advanced traffic report and data analysis
- Intuitive web-based interface with multilingual support
- Automatic monitoring and alerts
- Over-the-web firmware upgrades
- Searchable network-wide event log
- Intuitive VLAN Configuration
- Cloud based RF Optimisation

Nuclias Connect is the ideal centralised network management solution for SMB and SME networks. Nuclias Connect makes it easier to analyse, automate, configure, optimise, scale, and secure a network – delivering the convenience of an Enterprise-grade management solution, at an SMB price.
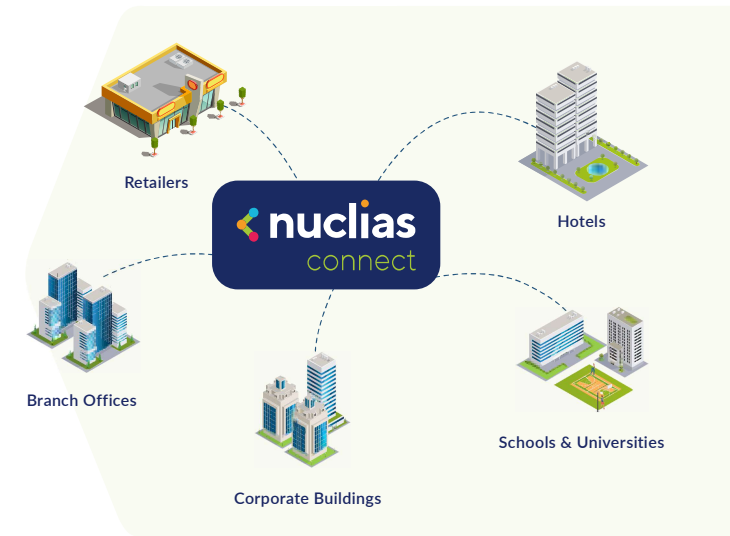
**Free Software Download**
Free to download software for Windows and Linux providing centralised management for a wide range of D-Link access points.

**Self-Optimising Network**
Nuclias Connect automatically adjusts access point transmission power to optimise coverage as well as self-heal in the event of device failure.

**Local Management**
Nuclias Connect can be installed on a local as well as privately hosted cloud server, meaning all the data is kept private.  Alternatively, Nuclias Connect Hub* is a dedicated controller preloaded with the Nuclias Connect management software

Retailers

Hotels

Branch Offices

Schools & Universities

Corporate Buildings

**Customisable**

nuclias connect

## Main features

- Free-to-Download Management Software
- License-Free Access Points
- Backwards-Compatibility
- Intuitive Interface
- Inexpensive Hardware Controller (Nuclias Connect Hub)
- Traffic Reporting & Analytics
- Remote Config & Batch Config
- Multi-Tenant & Role-based Administration
- Searchable & Auditable Event & Change Logs
- 802.1x and RADIUS Server, POP3, LDAP
- Multilingual Support
- Front-Desk Ticket Management
- Authentication and Payment Gateway (Paypal)
- Integration via Customisable Captive Portal

Nuclias Connect Hub

**Flexibility to Meet Your Needs**

- Free software download or dedicated Nuclias Connect Hub*
- Monitoring and remote management of wireless APs on your network
- Control & analytics of a broad or fine granularity, presentable in a variety of formats.
- Manage a variety of distributed deployments, including the option to configure settings and admin accounts in a specific manner for each deployment.
- Expand from a small network to a larger one (up to 1,000 APs)

**Insights at a Glance**

- Gain an extensive understanding of your network through usage analytics and status reports which can be viewed at a glance.
- Insights derived from traffic data can create business value.
- Traffic can be viewed across the entire network, to the level of a single AP.
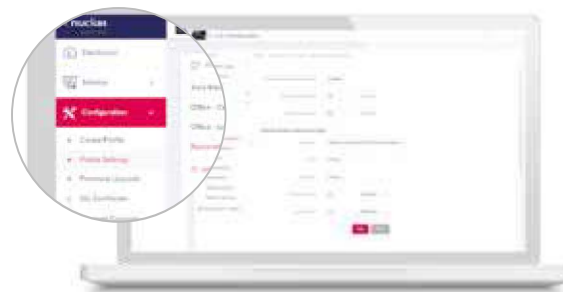
# NUCLIAS CLOUD

## nuclias cloud

### Complete cloud-managed networking solution for small to medium-sized organisations with one or more sites.

**Zero-touch** provisioning

**Simpler to install and easier to manage**

**€ Pay-as-you grow** Subscription

Wi-Fi coverage and network capacity are provided by high-performance Access Points and Managed Switches deployed on site, while configuration and ongoing management can be carried out remotely through a web browser or tablet. Zero-touch provisioning and centralised cloud-based control make the network simpler to install and easier to manage.

With Nuclias, network configurations and software updates are pushed to remote devices through the cloud, without the need to have specialised equipment or personnel onsite.
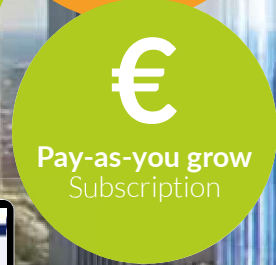
SSL encrypted, out-of-band network monitoring and management ensures secure connectivity whilst minimising bandwidth requirement.

## Wave 2 Cloud-Managed Access Points

| MODEL | DBA-1210P | DBA-2520P | DBA-2820P | DBA-3620P | DBA-3621P |
|---|---|---|---|---|---|
| Indoor/Outdoor | Indoor | Indoor | Indoor | Outdoor (IP55) | Outdoor (IP68) |
| Surge/ESD Protection | | | | | 6KV/15KV |
| Wireless standards | Simultaneous Dual-band a/n/ac (Wave 2) and b/g/n | | | | |
| Antenna | Embedded | Embedded | Embedded | Embedded | Detacheable |
| Maximum wireless speed | 867 Mbps - 5 GHz 300 Mbps - 2.4 GHz | 1,300 Mbps - 5 GHz 600 Mbps - 2.4 GHz | 1,733 Mbps - 5 GHz 800 Mbps - 2.4 GHz | 867 Mbps - 5 GHz 400 Mbps - 2.4 GHz | 867 Mbps - 5 GHz 400 Mbps - 2.4 GHz |
| MU-MIMO | • | • | • | • | • |
| Power-over-Ethernet | • (802.3af) | • (802.3at) | • (802.3at) | • (802.3af) | • (802.3af) |
| Wired interface | 1 x Gigabit Ethernet | 1 x Gigabit Ethernet | 1 x Gigabit Ethernet | 1 x Gigabit Ethernet | 1 x Gigabit Ethernet |
| Type of Housing | Plastic | Plastic | Plastic | Plastic | Metal |
| Latest 128-bit Wi-FI Encryption | • | • | • | • | • |

## Wi-Fi 6/802.11ax Cloud-Managed Access Points

WI-FI 6  WI-FI 6

| MODEL | DBA-X1230P | DBA-X2830P |
|---|---|---|
| Indoor/Outdoor | Indoor | Indoor |
| Wireless standards | Simultaneous Dual-band a/n/ac/ax and b/g/n/ax | |
| Antenna | Embedded | Embedded |
| Maximum wireless speed | 1200 Mbps - 5 GHz 600 Mbps - 2.4 GHz | 2402 Mbps - 5 GHz 1147 Mbps - 2.4 GHz |
| MU-MIMO | • | • |
| Power-over-Ethernet | • (802.3at) | • (802.3at) |
| Wired interface | 1 x Gigabit Ethernet | 1 x 2.5G Ethernet, 1 x Gigabit Ethernet |
| Type of Housing | Plastic | Plastic |
| Latest 128-bit Wi-FI Encryption | • | • |

## Gigabit Cloud-Managed Switches

| | MODEL | DBS-2000-10MP | DBS-2000-28 | DBS-2000-28P | DBS-2000-28MP | DBS-2000-52 | DBS-2000-52MP |
|---|---|---|---|---|---|---|---|
| **Gigabit Ethernet** | | | | | | | |
| HARDWARE | Number of Gigabit ports | 8 | 24 | 24 | 24 | 48 | 48 |
| | Number of Combo 1000BASE-T/SFP ports | | 4 | 4 | 4 | 4 | 4 |
| | Number of SFP ports | 2 | | | | | |
| | Switching capacity | 20 Gbps | 56 Gbps | 56 Gbps | 56 Gbps | 104 Gbps | 104 Gbps |
| | PoE standards | 802.3af, 802.3at | | 802.3af, 802.3at | 802.3af, 802.3at | | 802.3af, 802.3at |
| | PoE power budget | 130 W | | 193 W | 370 W | | 370 W |
| | PoE capable ports | Ports 1-8, up to 30 W | | Ports 1-24, up to 30 W | Ports 1-24, up to 30 W | | Ports 1-48, up to 30 W |
| | Time-based PoE | • | • | • | • | • | • |
| | Fanless | • | • | | | | |
| | 802.3az EEE | • | | • | • | • | • |
| | Power supply type | Internal | Internal | Internal | Internal | Internal | Internal |
| L2 | MAC address | 8K | 8K | 8K | 8K | 16K | 16K |
| | 802.1D STP, 802.1w RSTP | • | • | • | • | • | • |
| | 802.3ad link aggregation | • | • | • | • | • | • |
| VLAN | VLAN group (max static) | 256 | 256 | 256 | 256 | 256 | 256 |
| | Port-based VLAN, Voice VLAN | • | • | • | • | • | • |
| SECURITY | SSL | • | • | • | • | • | • |
| | ACL | • | • | • | • | • | • |
| | Port security | • | • | • | • | • | • |

# NUCLIAS CONNECT

## nuclias connect

**A free network management software with robust functionality, highly scalable, and end-to-end control.**

### WiFi4EU

In order to promote free Wi-Fi connectivity in public spaces, the European Commission's WiFi4EU initiative aims to provide municipalities with funding for Wi-Fi equipment.

€120 million will be allocated to 8,000 municipalities, with each receiving €15,000. This will be done over 5 "calls" between 2018 and 2020.

| | MODEL | DAP-2610 | DAP-2622 | DAP-2680 | DAP-2682 | DAP-3315 | DAP-X2810 | DAP-X2850 | DAP-2662 | DAP-3666 |
|---|---|---|---|---|---|---|---|---|---|---|
| HARDWARE | WiFi4EU/Hotspot 2.0 compatible | | | | | | | | • | • |
| | Wireless standards | Simultaneous a/n/ac (Wave 2) and b/g/n | Simultaneous a/n/ac (Wave 2) and b/g/n | Simultaneous a/n/ac (Wave 2) and b/g/n | Simultaneous a/n/ac (Wave 2) and b/g/n | b/g/n | Simultaneous a/n/ac/ax (Wi-Fi 6) and b/g/n/ax | Simultaneous a/n/ac/ax (Wi-Fi 6) and b/g/n/ax | Simultaneous a/n/ac (Wave 2) and b/g/n | Simultaneous a/n/ac (Wave 2) and b/g/n |
| | Wireless frequency range | 2.4 to 2.4835GHz 5.15 to 5.875GHz | 2.4 to 2.4835GHz 5.15 to 5.8GHz | 2.4 to 2.4835 GHz 5.15 to 5.875 GHz | 2.4 to 2.4835 GHz 5.15 to 5.85 GHz | 2.4 to 2.4835 GHz | 2.4 to 2.483 GHz, 5.15 to 5.35 GHz, 5.47 to 5.85 GHz | 2.4 to 2.483 GHz, 5.15 to 5.35 GHz, 5.47 to 5.85 GHz | 2.4 to 2.4835 GHz 5.15 to 5.875 GHz | 2.4 to 2.4835 GHz 5.15 to 5.875 GHz |
| | Maximum wireless speed | 867 Mbps - 5 GHz 400 Mbps - 2.4 GHz | 867 Mbps - 5 GHz 300 Mbps - 2.4 GHz | 1300 Mbps - 5 GHz 450 Mbps - 2.4 GHz | 1700 Mbps - 5 GHz 600 Mbps - 2.4 GHz | 300 Mbps - 2.4 GHz | 1200 Mbps - 5 GHz 600 Mbps - 2.4 GHz | 2402 Mbps - 5 GHz 1147 Mbps - 2.4 GHz | 867 Mbps - 5 GHz 300 Mbps - 2.4 GHz | 867 Mbps - 5 GHz 300 Mbps - 2.4 GHz |
| | MIMO | • (MU-MIMO) | • (MU-MIMO) | • (MU-MIMO) | • (MU-MIMO) | • | • (MU-MIMO) | • (MU-MIMO) | • (MU-MIMO) | • (MU-MIMO) |
| | Antenna type | 2 embedded omni-directional | 2 embedded omni-directional | 3 embedded omni-directional | 4 embedded omni-directional | Sector | 2 embedded omni-directional | 4 embedded omni-directional | 4 embedded omni-directional | 4 embedded omni-directional |
| | Antenna gain | 3 dBi for 2.4GHz 3 dBi for 5GHz | 2 dBi for 2.4GHz 2 dBi for 5GHz | 3.6 dBi for 2.4GHz 4.2 dBi for 5GHz | 3.7 dBi for 2.4GHz 4.8 dBi for 5GHz | 12 dBi | 3.2 dBi for 2.4GHz 4.2 dBi for 5GHz | 3.5 dBi for 2.4GHz 5.5 dBi for 5GHz | 3 dBi for 2.4GHz 4 dBi for 5GHz | 6 dBi for 2.4GHz 6 dBi for 5GHz |
| | Power-over-Ethernet (PoE) | • (802.3af) | • (802.3af) | • (802.3at) | • (802.3at) | • (proprietary) | • (802.3at) | • (802.3at) | • (802.3af) | • (802.3af) |
| | Wired interface | 1 x Gigabit | 2 x Gigabit | 1 x Gigabit | 2 x Gigabit | 2 x Fast Ethernet | 1 x Gigabit | 1 x 2.5 Gigabit 1 x Gigabit | 1 x Gigabit | 2 x Gigabit |
| | Type of housing | Plastic | Plastic | Plastic | Plastic | Plastic | Plastic | Plastic | Plastic | Plastic |
| | Outdoor housing (IP rating) | | | | | • (IPX5) | | | | • (IP68) |
| WIRELESS | Maximum number of SSIDs | 16 | 16 | 16 | 16 | 8 | 16 | 16 | 16 | 16 |
| | Multiple modes (AP, WDS with AP, WDS / bridge, client) | • | • | • | • | • | • | • | • | • |
| | WMM-PS/802.11e (U-APSD) | • | • | • | • | • | • | • | • | • |
| | Wi-Fi scheduler | • | • | • | • | • | • | • | • | • |
| | AP traffic load balance | • | • | • | • | • | • | • | • | • |
| | L2 roaming | • | • | • | • | • | • | • | • | • |
| SECURITY | WEP/WPA/WPA2-Per./Ent. | • | • | • | • | • | • | • | • | • |
| | TKIP/AES encryption | • | • | • | • | • | • | • | • | • |
| | WLAN partition, Station Isolation | • | • | • | • | • | • | • | • | • |
| | SSID broadcast disable | • | • | • | • | • | • | • | • | • |
| | MAC address filtering | • | • | • | • | • | • | • | • | • |
| | 802.1X authentication | • | • | • | • | • | • | • | • | • |
| NETWORK | DHCP server | • | • | • | • | • | • | • | • | • |
| | 802.1D STP, IGMP snooping, ARP spoofing, SNTP | • | • | • | • | • | • | • | • | • |
| | IPv6 | • | • | • | • | | • | • | • | • |
| MANAGEMENT | WEB | • | • | • | • | • | • | • | • | • |
| | SNMP (v1, v2c, v3) | • | • | • | • | • | • | • | • | • |
| | CLI, Telnet, SSH | • | • | • | • | • | • | • | • | • |
| | Syslog | • | • | • | • | • | • | • | • | • |
| | Central management through Nuclias Connect | • | • | • | • | • | • | • | • | • |

### WiFi4EU Access Point Criteria

- Supports concurrent dual-band (2,4GHz – 5GHz) use
- Has a support cycle superior to 5 years
- Has a mean time between failure (MTBF) of at least 5 years
- Has a dedicated and centralised single point of management for all APs of each WiFi4EU network
- Supports IEEE 802.1x
- Complies with IEEE 802.11ac Wave I
- Supports IEEE 802.11r
- Supports IEEE 802.11k
- Supports IEEE 802.11v
- Is able to handle at least 50 concurrent users without performance degradation
- Has at least 2x2 multiple-input-multiple-output (MIMO)
- Complies with Hotspot 2.0 (Passpoint Wi-Fi Alliance certification program).

For more info, visit
**https://www.wifi4eu.eu**

# Managing Wireless Access

D-Link's wireless management option allows you to centrally manage and monitor up to 1,024 wireless access points either within a local network or remotely. Furthermore with our Nuclias Cloud-Managed Networks, you can quickly and easily deploy and monitor unlimited number of access points, through a simple pay as you grow subscription model.

## Managed Wireless

| | | Nuclias Cloud | Nuclias Connect | Nuclias Connect Hub (DNH-100) | DWC-1000 (H/W vers. C1) | DWC-2000 |
|---|---|---|---|---|---|---|
| **H/W** | Number of Gigabit ports | | | 1 x LAN | 4 x LAN, 2 x WAN | 4 x LAN |
| | Number of Combo 1000Base-T/SFP ports | | | | | 4 |
| **WLAN MANAGEMENT** | Type of controller | Cloud-based | Software-based (**Free**) | Hardware-based | Hardware-based | Hardware-based |
| | Standard number of APs | N/A, Subscription per AP | 1000 | 100 | 12 (48 with cluster of 4 x DWC-1000) | 64 (256 with cluster of 4 x DWC-2000) |
| | Maximum number of APs through optional license upgrade | Unlimited number of APs supported through subscription | 1000 | 100 | 66 (264 with cluster of 4 x DWC-1000) | 256 (1024 with cluster of 4 x DWC-2000) |
| | Supported AP | DBA-1210P DBA-2520P DBA-2820P DBA-3620P DBA-3621P DBA-X1230P DBA-X2830P | DAP-2610 DAP-2622 DAP-2662 DAP-2680 | DAP-2682 DAP-3315 DAP-X2850 DAP-3666 | DWL-6610AP DWL-6610APE DWL-6620APS DWL-7620AP | DWL-8620AP DWL-8620APE DWL-8720AP DWL-X8630AP |
| | Zero touch provisioning for AP deployment | • | | | | |
| | AP geolocation | • (with Google Maps) | | | | |
| | Controller redundancy | | | | • | • |
| | Advanced traffic report and data analysis | • | • | • | | |
| | Visualised topology | • | • | • | • | • |
| | NAT pass through (AP) | • | • | • | | |
| | Multi-tenancy | • | • | | | |
| | WIDS | | | | • | • |
| | IPv6 | • | • | • | • | • |
| **USER AUTHENTICATION** | Captive portal | • | • | • | • | • |
| | Authentication method | 802.1x, RADIUS, Facebook/ Google login | Local DB, external RADIUS, LDAP, POP3, Wi-Fi passcode, AD | Local DB, external RADIUS, LDAP, POP3, Wi-Fi passcode, AD | Local DB, external RADIUS, NAP, Wi-Fi passcode | Local DB, external RADIUS, NAP, Wi-Fi passcode |
| | Payment gateway (Paypal, WorldPay, SecureNet, Authorise.Net) | | • | • | • | • |
| | Web redirect | | • | • | • | • |
| **RF** | Auto transmit power control | | • | • | • | • |
| | Self-healing around failed APs | | • | • | • | • |
| **WIRELESS FEATURE** | Multiple SSID per Radio (AP) | 8 | 8 | 8 | 16 | 16 |
| | Band steering | • | • | • | • | • |
| | Seamless roaming | | | | • | • |
| | L2 roaming | | • | • | • | • |
| | Bandwidth optimisation | • | • | • | • (QoS) | • (QoS) |
| | Load balancing | | | | • | • |
| **SYSTEM MANAGEMENT** | Web-based user interface | HTTPS | HTTPS | HTTPS | HTTPS | HTTPS |
| | Firmware/module online check | • | • | • | | |
| | Remote management | • | • | • | • | • |
| | Cloud hosting | Native | Amazon Web Services / Microsoft Azure | Amazon Web Services / Microsoft Azure | | |
| | Firmware/configuration upgrade by scheduling | • | • | • | | |
| **NETWORKING** | WAN fail-over | | | | • | • |
| | Link aggregation | | | | | • (LACP) |
| | Layer 3 routing (table size) | | | | • (100) | • (2048) |
| | Firewall | | | | • | • |
| | VLAN | • | • | • | • | • |
| | Support VPN gateway | | | | • (VPN license upgrade) | |
| | Build in DHCP server | | | | • | • |
| **OTHERS** | Optional license upgrades | | | | DWC-1000-AP6-LIC DWC-1000-VPN-LIC | DWC-2000-AP32-LIC DWC-2000-AP64-LIC DWC-2000-AP128-LIC |

❯ Saves time and resources by configuring and managing multiple access points from a cloud, software or hardware-based wireless controller. This avoids repeated configurations and improves control of the wireless network.