For over 15 years, Westell has been in the business of Ethernet switches and routers, and for over 30 years, Westell has been designing and building hardened transport delivery equipment. Westell has now combined these areas of expertise to develop the new eSmartAccess™ family of products.

The fourth platform in the eSmartES™ family is the ES7012G series of Managed Ethernet EdgeSwitches. These managed switches are designed especially for “edge” applications, deploying the latest in reliability and security for harsh environments, on the perimeter of the network where Smart Grid, industrial and security devices are connected. The fourth platform in the eSmartES™ family is the ES7012G series of Managed Ethernet EdgeSwitches. These managed switches are designed especially for “edge” applications, deploying the latest in reliability and security for harsh environments, on the perimeter of the network where Smart Grid, industrial and security devices are connected.

The eSmartES’ Westell Edge Operating System (WEOS) features include SiteVu™ Secure, AutoSFP, Tag-based VLANs, secure Web Management GUI and CLI interfaces, SNMPv3 management, RADIUS Authentication and Accounting, 802.1p QoS Prioritization, IGMPv3 Snooping and IGMPM2 multicast management, port security, Link OAM (EFM, 802.3ah), and network redundancy options, including STP, RSTP, and MSTP for fault recovery.

The ES7012G configuration is a 12-port switch with eight 10/100Mb ports and four gigabit ports that are SFP/UTP combinations.

The ES7012G eSmartES switch is ideal for building a switched, hardened, Ethernet network infrastructure, connecting edge devices such as SCADA telemetry radios, Programmable Logic Controllers, and cameras with upstream switches or routers. Designed for use in industrial and heavy-duty outdoor applications such as power utility substations, video surveillance systems, and traffic control monitoring, the hardened ES7012G handles stressful workloads.

The ES7012G platform’s industrial design features include an extended operating temperature range of -40 to +85°C (-40 to +185°F), redundant DC power input range of 11 to 57Vdc for high availability applications requiring dual power inputs, and provides a high level of immunity to electromagnetic interference and heavy electrical surges. The ES7012G is packaged in a rugged, aluminum enclosure that allows for panel mounting, wall mounting, and DIN-rail mounting.

Product Highlights

- Featuring SiteVu™ Secure for unprecedented situational awareness of system voltage, temperature and status of external devices
- Small Form Pluggable (SFP) optics with AutoSFP and digital diagnostics
- PoE/PoE+ (802.3af/802.3at) fully-managed on a per port basis
- Westell Edge Operating System (WEOS)
- Wide DC input voltage range of 11 to 57Vdc
- High voltage input range of 90-264 Vac or 127-300 Vdc
- Extended operating temperature range of -40 to +85°C (-40 to +185°F)
eSmartES™ ES7012G Industrial Managed Ethernet Switch with SiteVu™ & PoE

Westell Edge Operating System (WEOS) Highlights

**Feature Highlights**
- PoE/PoE+
- SiteVu™ Secure
- GUI/CLI Interfaces
- AutoSFP optics
- Multi-Level Security
- VLANs
- IGMPv3 Snooping
- Supports Fault-tolerant STP, RSTP, MSTP and Link Aggregation
eSmartES™ ES7012G Industrial Managed Ethernet Switch with SiteVu™ & PoE

Additional Views & Mechanical Drawings

**Horizontal Orientation**

![Horizontal Orientation Diagram](image-url)

**Mounting Bracket Types & Positions**

![Mounting Bracket Diagram](image-url)

**Dimensions**

![Dimensions Diagram](image-url)
eSmartES™ ES7012G Industrial Managed Ethernet Switch with SiteVu™ & PoE

Product Specifications

Westell Edge Operating System (WEOS)
- PoE/PoE+ (802.3af/802.3at) fully managed on a per port basis
- RSTP (802.1w) & Enhanced Rapid Spanning Tree network fault recovery (<5ms)
- MSTP (802.1Q) Multiple Spanning Tree network fault recovery
- VLAN (802.1Q) with double tagging and GVRP support
- AutoSFP for automatic switching from RJ45 to SFP when equipped
- Simple plug-and-play operation - automatic learning, negotiation & cross-over detection
- Port Rate Limiting and Broadcast Storm Limiting
- IGMPv3 Snooping for multicast filtering
- Link Aggregation (802.3ad)
- IPv6 traffic switching
- LLDP (802.1AB) Link Layer Discovery Protocol
- Link OAM (EFM, 802.3ah) Ethernet in the First Mile
- Quality of Service (802.1p) for real-time traffic

Cyber Security Features
- Multi-level user passwords
- SSH/SSL encryption (128-bit encryption)
- Enable/disable ports
- Port-based Network, Access & Control (802.1x)
- MAC-based port security with Access Control List
- VLAN (802.1Q) to segregate and secure network traffic
- RADIUS centralized password mgmt
- RADIUS Accounting (RFC 2866) system data logging
- SNMPv3 encrypted authentication and access security

SiteVu™ Features
- Internal temperature
- External temperature probe input
- Input voltage level monitor
- A/B voltage source status monitor
- 10 (8 digital, 2 analog) external telemetry inputs; for doors, rectifier fail alarms, and other external sources
- 2 NO/NC Relay Outputs which can be controlled by WEOS/SiteVu Secure events

Environment & Physical Specifications
- Complies with the following:
  - ANSI/UL 60950-1 2nd Edition
  - CAN/CSA C22.2-No. 60950-1-07 2nd Edition
  - FCC Part 15
- Designed to comply with the following:
  - NEMA TS-2 (traffic control equipment)
  - Designed to comply with the following for immunity to EMI and heavy electrical surges:
    - IEEE 1613 (elec utility substations)
    - IEC 61850-3 (elec utility substations)
    - IEC 61800-3 (variable speed drive systems)
    - IEC 61000-6-2 (generic industrial)
  - Weight: 3.20 lbs. (fully loaded)
  - -40°C to +85°C operating temp. (no fans)
  - Dimensions (approx.): 2.26” W x 8.19” D (including connectors) x 8.87” H

Power Supply Features
- DC voltage range: 11-57 Vdc
- HV voltage range: 90-264 Vac / 127-300 Vdc
- Dual (A/B) low voltage DC inputs
- Power consumption: 140W max. (with PoE)
- Isolated power supply

Management Tools
- Web-based, Telnet, CLI management interfaces
- SNMP v1/v2/v3 (56-bit encryption)
- Remote Monitoring (RMON)
- Rich set of diagnostics with logging and alarms

Switch Properties
- Switching method: Store & Forward
- Switching latency: 8 us (100Mpbs)
- Switching bandwidth: 9.6Gbps
- MAC addresses available: 8k
- Priority Queues: 4
- Frame buffer memory: 1 Mbit
- Simultaneous VLANS: 256
- VLAN ID Range: 1 to 4094
- IGMP multicast groups: 256
- Port rate limiting: From 64Kbps to 900Mbps
- No head of line blocking

Flush Wall-Mount Position

Ordering Information

<table>
<thead>
<tr>
<th>A90-ES7012G-DC</th>
<th>Hardened, 12-port managed switch with 8FE ports and 4 Gig ports with 4 SFP/UTP combo ports, LVDC powered</th>
</tr>
</thead>
<tbody>
<tr>
<td>A90-ES7012G-HV</td>
<td>Hardened, 12-port managed switch with 8FE ports and 4 Gig ports with 4 SFP/UTP combo ports, HV powered</td>
</tr>
<tr>
<td>A90-ESP7012G-DC</td>
<td>Hardened, 12-port managed switch with 8FE PoE+ ports and 4 Gig ports with 4 SFP/UTP combo ports, LVDC powered</td>
</tr>
<tr>
<td>A90-ESANC72</td>
<td>Temperature probe for SiteVu Secure with digital sensor</td>
</tr>
<tr>
<td>A90-ESANC76</td>
<td>ES/ESP7012G Front-facing rear-mount brackets</td>
</tr>
<tr>
<td>A90-ESANC77</td>
<td>ES/ESP7012G DIN-rail mounting bracket</td>
</tr>
</tbody>
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