DHCP client/Bootp, TFTP, Telnet Provides standard tools for addressing and management of the switch

SNMP ver 2 Enables SNMP based management tools to monitor, troubleshoot and configure the switch through the switch

IEEE 802.1x Enables only authenticated clients to transmit data traffic, ensuring that rogue devices cannot log on to the switch

IGMP Snooping Enables the monitoring of Layer 3 multicast traffic even though the ES 3000 is a layer 2 switch; enables the switch to forward multicast traffic to only those ports that contain members for the intended multicast group

IEEE 802.1Q VLANs Provides segmentation of Layer 2 broadcast domains, leading to networks with better security, performance, and manageability

CLI/Web/Menu based Provides a variety of mechanisms to interface with the switch including a detailed yet simple to use Web interface

Link Aggregation IEEE 802.3ad Provides the ability to aggregate bandwidth across multiple physical links of the same type (FE or GE), allowing for load sharing and improved reliability of Spanning Tree convergence time

(GVRP) dynamically creation and management of VLANs on switches connected through 802.1Q trunk ports

IEEE 802.1s Multiple Spanning Tree IEEE 802.1d Spanning Tree Ensures that no loops exist in a meshed network without the need for extensive configuration

IEEE 802.3 af standards• Ensures that no damage occurs to end-equipment

24 port 10/100 Base-T + 2 GE Provides ports for wired and wireless devices in addition to GE uplink ports

5 year limited warranty

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES-3000-10-WW</td>
<td>355,000 hours</td>
</tr>
<tr>
<td>FIBER-3000-1S-WW</td>
<td>1,125,000 hours</td>
</tr>
<tr>
<td>Non-POE version</td>
<td>7.75 lbs./3.52 kg (without rack brackets)</td>
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<tr>
<td>POE version</td>
<td>8.80 lbs./3.99 kg (without rack brackets)</td>
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<tr>
<td>Dimensions: With mounting brackets: 440.0 mm W x 44 mm (1RU) H x 256 mm D</td>
<td>1.73 in. H x 17.3 in. W x 10.08 in. D</td>
</tr>
<tr>
<td>Without mounting brackets: 1.73 in. H x 19 in. W x 10.08 in. D</td>
<td></td>
</tr>
</tbody>
</table>

About Symbol Technologies
Symbol Technologies, Inc. The Enterprise Mobility Company™, delivers solutions that capture, move and manage information in real-time, from the point of activity to the point of decision. Symbol enables enterprises to maximize their return on their greatest asset—human capital—by rapidly deploying and supporting advanced wireless business solutions that transform the way their businesses operate. Symbol’s comprehensive line of mobile networking solutions, including mobile computing, voice and data communications, professional services and management tools, enable organizations to optimize productivity, improve customer satisfaction and reduce costs in many different industries. Symbol Technologies is an ISO 9001 and ISO 9002 registered company, as scope definitions apply. All rights reserved. Symbol, the Symbol logo and Symbol Technologies are registered trademarks of Symbol Technologies, Inc. Symbol Technologies reserves the right to make changes at any time to any products herein without notice. Other product names and service marks may be the trademarks or service marks of their respective owners. © Copyright 2004 Symbol Technologies, Inc.
The ES 3000 is designed to provide the scalability and reliability needed for wireless networks. It includes a variety of features and options to support the unique requirements of wireless networks.

### Key Features

**Performance**
- **802.11 a/b/g support**: The ES 3000 supports 802.11 b/g forms and future enhancements to 802.11 g for increased capacity and performance.
- **802.3af Power-over-Ethernet**: The ES 3000 provides power-over-Ethernet (PoE) support for 802.3af-compliant devices.

**Security**
- **IEEE 802.1X Authentication**: The ES 3000 supports IEEE 802.1X for enhanced security.
- **Cisco Network Registrar (CNR)**: The ES 3000 includes Cisco Network Registrar (CNR) for enhanced security.

**Manageability**
- **Web-based Management**: The ES 3000 provides a web-based management interface for easy configuration and monitoring.
- **Command Line Interface (CLI)**: The ES 3000 includes a command line interface for advanced users.

**Ease of Deployment**
- **Pre-configured Settings**: The ES 3000 comes pre-configured for ease of deployment.
- **Rapid Spanning Tree**: The ES 3000 supports Rapid Spanning Tree Protocol (RSTP) for faster convergence and improved performance.

**Power Management**
- **PoE Management**: The ES 3000 provides PoE management for easy configuration and monitoring.
- **Power Prioritization**: The ES 3000 allows for prioritization of PoE devices for critical services.

**Network Resilience**
- **Multiple Spanning Tree Protocol (MSTP)**: The ES 3000 supports MSTP for network resilience.
- **Dynamic Port Link Aggregation**: The ES 3000 supports dynamic port link aggregation for improved performance.

**Quality of Service (QoS)**
- **Layer 2 QoS**: The ES 3000 provides layer 2 QoS support for enhanced traffic management.
- **Rate Limiting**: The ES 3000 includes rate limiting for enhanced traffic management.

**Scalability**
- **Virtual LANs (VLANs)**: The ES 3000 supports VLANs for enhanced scalability.
- **Port Mirroring**: The ES 3000 includes port mirroring for enhanced monitoring.

**Conclusion**

The ES 3000 is designed to meet the needs of wireless networks with its advanced features and capabilities. Its robust design and scalable architecture make it an ideal solution for wireless networks of all sizes.
Designed to Simplify Wireless Networking—
and Lower Costs
All wireless infrastructures require Ethernet connectivity. The ES 3000 offers a single platform with Ethernet connectivity and manages the Power-over-Ethernet (PoE) allowing the simplification and consistency of a single vendor for Ethernet and Wireless products. Full PoE greatly reduces the cost of installing power sources for Access Points/Points, and other PoE Management capabilities supply load-balancing and management of PoE devices. The ES 3000 offers an intuitive user interface, allowing for simple configuration and monitoring of the ES 3000 and PoE devices. The ES 3000 offers cost-effective and efficient PoE management, ensuring complete security.

The Right Features...at the Right Price

Quality of Service (QoS)
The ES 3000 offers a variety of QoS features designed to ensure optimal network performance. The ES 3000 provides Layer 2 Quality of Service (QoS) and Layer 3 Quality of Service (QoS) services, which enable users to prioritize traffic, maintain throughput, and provide network security. The ES 3000 also includes Layer 3 Services (L3S) and Layer 2 Services (L2S) capabilities. These features enable users to prioritize voice and video traffic, maintain bandwidth, and ensure network security.

Network Security
A range of security features is offered by the ES 3000 to ensure that data privacy is protected and network traffic is authorized. Access Control Lists (ACLs) guard against attacks such as denial-of-service by restricting access to specific portions of the network, while maintaining forwarding performance by performing lookups in hardware. Packets can be dropped based on source address, destination port, address, destination port, or TCP/UDP port. To provide port security, the ES 3000 allows IEEE 802.1x port-based authentication, which blocks access to Ethernet ports, effectively reducing the risk of attacker access to network devices, such as switches, access points, or hubs.

Performance
The ES 3000 provides line rate throughput at the most competitive price, ensuring that bandwidth and mobile device battery life is maintained.

Resilience
Dynamic Power Allocation
The ES 3000 also provides full PoE visibility. Any change in the status of the power budget and PoE devices will be reflected on the network, ensuring that network traffic is maintained.

Power-over-Ethernet Ports

The ES 3000 offers a variety of PoE features, including PoE visibility, allowing users to monitor the status of PoE devices, including the number of devices connected to each port and the amount of power being supplied.

Web and Command Line Interface (CLI) Management
The ES 3000 offers a variety of means to manage and deploy networks. A simple Web-based GUI interface enables users to manage network topology and maintain connectivity and monitoring the ES 3000. The CLI provides another standard interface to manage the ES 3000. In addition, the data of a configuration to multiple ES 3000 switches is simplified by a TCP/IP-based Management interface.

One Complete Management Solution for Wireless Infrastructure

Comprehensive Wireless Network Management
The ES 3000 provides a comprehensive interface that combines monitoring and deployment, streamlining, and enhanced configuration and management of all elements of the Wireless Infrastructure, including the ES 3000, WS 5000 Wireless Switches, and all associated Access Points (APs) and AP Managers— from a single centralized location such as a Data Center or Network Operations Center.

Wireless Infrastructure

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Designed to Simplify Wireless Networking— and Lower Costs

All wireless infrastructure requires Ethernet connectivity. The ES 3000 offers a solution tailored to meet the needs of corporate and wireless environments.

The ES 3000 also provides IEEE 802.3ad (Link Aggregation) option, which ensures consistent configuration across all switches and devices. The ES 3000 can be managed centrally from a single central location such as a Data Center or Network Operations Center.

One Complete Management Solution for Wireless Infrastructure

Comprehensive Wireless Network Management

Synergies Mobility Manager (SyMM) software provides a consolidated view of the entire wireless infrastructure, enabling deployment, monitoring, enforced configuration and management of all elements—ES 3000, ES Series Wireless Switches, and all associated Access Points (AP 510s and AP 510s+).

For Managed Ethernet Switches

The ES 3000 provides firmware and configuration upgrades for both the ES 3000 Managed Ethernet Switches, and all associated Access Points (AP 510s and AP 510s+).
ES 3000 Specification Highlights

Features
- PoE+ and 10/100 Base-T x 24 port
- Green światter (IEEE 802.3af)
- IEEE 802.3x Flow Control

Benefits
- Provides ports for wired and wireless devices in addition to 10/100 ports
- Enables PoE+ and 10/100 Base-T x 24 port
- Provides 24 10/100 Base-T (100 Mbit/s) + 2 Gigabit Ethernet (1000 Mbit/s) ports
- Provides comprehensive support for a standard set of Layer 2 switch MIBs

Specifications
- Redundant Power Connections: 2
- Adapters: 2
- Interfaces: 24
- Ports: 24
- PoE: Yes
- PoE Power Output: 15.4 W
- PoE Power Consumption: 100 VAC-240VAC, 50Hz/60Hz, 3.5A (PoE)

Warranty
- 5 year limited lifetime warranty

Performance
- Packet Rate: 6.6Mpps based on 64 byte packets
- Line rate packet forwarding

Physical Characteristics
- Weight: POE version 8.95 lbs./4.06 kg (with rack brackets)
- Non-POE version 7.75 lbs./3.52 kg (without rack brackets)
- Non-POE version 7.90 lbs./3.58 kg (with rack brackets)
- Dimensions: With mounting brackets: 1.73 in. H x 17.3 in. W x 10.08 in. D
- Without mounting brackets: 1.73 in. H x 17.3 in. W x 10.08 in. D

Symbol Enterprise Mobility Services
Symbol Enterprise Mobility Services provide comprehensive support and technical expertise for deploying, delivering and maintaining successful mobile solutions. Our diverse service offerings enhance your business operations, so you receive competitive advantage.

Symbol Technologies, Inc., The Enterprise Mobility Company™, delivers the experience, expertise and best practices that integrate established mobility systems, devices and applications into your business environment. As a trusted extension of Symbol, certified partners provide services ranging from design and implementation to operating and project management to help ensure a smooth transition from implementation to operation. Symbol Enterprise Mobility Services deliver the experience and comprehensive support to help ensure that your mobile solutions enhance productivity, realize competitive advantage and integrate with your business environment.

Contact your local Symbol Technologies office or Business Partner. For system, product or services availability and specific information within your country, please contact your local Symbol Technologies office or Business Partner.

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FIBER-3000-1S-WW 1,125,000 hours
ES-3000-10-WW 355,000 hours
ES3000BR 10/04

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Symbol Technologies, The Enterprise Mobility Company™, delivers solutions that ensure better service and manage information at the point of activity to the point of decision. Symbol delivers integrated mobility solutions that boost productivity, improve customer service and reduce costs. Symbol’s industry leading solutions include wireless voice and data technology and advanced mobile computing devices, software and services designed to help enterprises and individuals enhance productivity, improve customer service and reduce costs. With a global presence and extensive network of partners, Symbol Technologies is the trusted mobility solutions provider.
ES 3000 Specification Highlights

**Performance**
- **LAN Accessing Rates:** 10/100 Mbps and 10/100/1000 Mbps (auto-negotiation)
- **LAN Linking Rates:** 10 Mbps and 100 Mbps (auto-negotiation)

**Quality of Service**
- Provides classification, marking, rate policing, and IEEE 802.1p or Diffserv queuing based on IEEE 802.1p bits

**IEEE 802.1Q VLANs**
- Provides segmentation of Layer 2 broadcast domains, leading to networks with better security, performance, and modularity

**Rapid Spanning Tree (IEEE 802.1w)**
- Ensures much faster network convergence in the event of a change in network topology through the dynamic exchange of VLAN configuration information with other GVRP switches and (GVRP) dynamically creation and management of VLANs on switches connected through 802.1Q trunk ports

**IEEE 802.1d Spanning Tree**
- Ensures that no loops exist in a meshed network without the need for extensive configuration

**IGMP Snooping**
- Enables the monitoring of Layer 3 multicast traffic even though the ES 3000 is a layer 2 switch; enables the switch to forward multicast traffic to only those ports that contain members for the intended multicast group, resulting in much better switch performance

**IEEE 802.1Q VLAN Registration Protocol (GVRP)**
- Enables dynamic exchange of VLAN configuration information with other GVRP switches and enables the automatic creation and management of VLANs on switches connected through 802.1Q trunk ports

**GARP VLAN Registration Protocol (GVRP)**
- Enables dynamic exchange of VLAN configuration information with other GVRP switches and enables the automatic creation and management of VLANs on switches connected through 802.1Q trunk ports

**Multiple Spanning Tree (IEEE 802.1s)**
- Allows multiple spanning trees to exist on a single switch, enabling the simultaneous operation of multiple spanning trees in a single network

**Flow control (IEEE 802.3x)**
- Sends pause frames when switch congestion occurs

**Security Filtering or Access Control Lists (ACLs)**
- Enables filtering of traffic flowing through the switch based on user policy, including MAC address, source IP address, destination IP address and protocol type; user can chose to permit or deny any traffic flowing through the switch

**Flow Control**
- Provides a mechanism to monitor or snoop “interesting traffic” flowing through the switch

**CLI/Web/Menu based**
- Provides a variety of mechanisms to interface with the switch including a detailed yet simple to use Web based interface and context based intuitive CLI support

**SNMP**
- Enables SNMP based management tools to monitor, troubleshoot and configure the switch through an SNMP based interface
- SNMP v1, v2c, v3

**IEEE 802.1x**
- Enables only authenticated clients to transmit data traffic, ensuring that rogue devices cannot log on to the network

**Port Mirroring**
- Provides a mechanism to monitor or snoop “interesting traffic” flowing through the switch

**Flow control**
- Provides a mechanism to monitor or snoop “interesting traffic” flowing through the switch

**IEEE 802.3 af standards-**
- Ensures that no damage occurs to end-equipment through a standard 802.3af compliant switch
- Copper standard/Fiber optional

**ES 3000 Ethernet Switch**
- Provides 24 port 10/100 Base-T + 2 GE, 24 port 10/100 Base-T, and 2 GE, providing ports for wired and wireless devices in addition to GE uplink ports

**ES 3000 Ethernet Switch Specifications**
- **Power Consumption:** 35 watts (without PoE)
- **Performance:** Line rate packet forwarding
- **Network Core:** 20Gbps switching capacity
- **Data Rates:** 10/100/1000 Mbps
- **Routing:** IP, IPx, AppleTalk, DECnet, DECnet-Pr
- **Encryption:** 3DES
- **Firmware Version:** 7.75
- **Mounting:** 1 RU (440.0 mm W x 44.0 mm H x 256.0 mm D)
- **LED:** Status indicator for Power; Per-port status LEDs
- **MAC Addresses:** 8000
- **Operating Temperature:** 32° to 104°F/0°C to 40°C
- **User Environment:** EMI Shielded, 440.0 mm W x 44.0 mm H x 256.0 mm D
- **Performance Characteristics:**
  - **ES-3000-10-WW:** 355,000 hours
  - **ES-3000-PWR-10-WW:** 140,000 hours
  - **ES-3000-10-POE-WW:** 7,000 hours

**About Symbol Technologies**
- Symbol Technologies Inc., a subsidiary of Honeywell International Inc., delivers solutions that capture, move and manage information in real time, from the point of entry to the point of use. Symbol enables enterprises to improve operational efficiency and customer service, enabling both increased revenue and reduced costs.

**Symbol Enterprise Mobility Services**
- Symbol Enterprise Mobility Services provide comprehensive support and technical expertise for designing, deploying and maintaining successful mobility solutions. The service success is derived from our team of over 250 mobility experts, world-class training, and an unsurpassed portfolio of tools and solutions.

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