COMMANDO Scout E300 Series Unmanaged Switches

Data Sheet

Contents

Product Overview

COMMANDO Scout E300 Series Unmanaged Switches consists of switches which are ideal for small to medium-sized businesses, internet cafes, hotels, schools, and others. They are easy to install and maintain and provide rich services, helping customers build secure, reliable, and high-performance networks. It is an economical way for SOHO and Small-to-Medium Businesses (SMB) to take advantage of Gigabit Ethernet speeds as well as PoE/PoE+ or 24V PoE capability while reducing energy consumption and minimizing noise. This series switches are available in 4 to 48 Gigabit Ethernet ports, 4 to 48 Fast Ethernet Ports with two either 1FE or 1GE copper/ 1G fiber Uplinks and also has 4 port SFP fiber switch model with 2GE uplinks. Designed for operational simplicity to lower total cost of ownership, they enable scalable access layer office and home operations.

It can be quickly set up with plug and play with Zero Touch Provisioning. It is unmanaged SOHO (Small Office/Home Office) Switches, are designed for Small Business Networks, unmanaged Switches empower your growing business instant flexibility with copper as well as fiber ports connectivity along with PoE/PoE+/24V PoE reliable performance at a very affordable cost. This switch provides Gigabit Ethernet high-speed network connectivity with duplex and speed auto-negotiation for optimal speed detection through RJ45 Category 5, 5e or 6 cables and supports up to 250m cable distance on copper ports and Up to 20Km on fiber ports.

It can identify and determine the correct transmission speed and half/full duplex mode of the attached devices. It also supports standard Auto-MDI/MDI-X that can detect the type of connection to any Ethernet device without requiring special straight or crossover cables, Store-and-Forward forwarding scheme to ensure low latency and high data integrity.

It supports Energy Efficient Ethernet (EEE), which enables the switch to enter a power-saving mode when traffic is light. Switches can smartly automatically adjust the PoE/PoE+/24V PoE power output for transmissions based on the cable length for PoE/PoE+/24V PoE devices connected. It can also set any ports that are not transmitting traffic to sleep mode.

Product Highlights

- 4 to 48 x 10/100Mbps or 10/100/1000Mbps Ethernet Ports along with fixed 2G fiber/ 2GE or 2FE copper Uplinks and PoE/PoE+/ Passive PoE & Non PoE Models.
- All 4 to 48 ports support auto-negotiation and auto MDI/MDIX.
- Extra Ports slots with flexible Ethernet Fiber/Copper Switchports or Uplinks.
- Enclosure Type either Desktop or Rack/Wall mountable - 1U.
- PoE/PoE+/ 24V PoE models to provide power on all ports to IEEE 802.3af, IEEE 802.3at and passive PoE capable PD devices which include Wireless AP, Bridges, IoT etc. having power budget up to 120W.
- Ports have both PoE/PoE+ capability with 30W Max Per port or 24V PoE power as per model.
- PD detection will automatically detect power for your PoE/PoE+ devices.
- Support Store-and-forward Switching with Backplane Bandwidth of 1Gbps to 96Gbps
- MAC address Table size of 2000 entries with Auto-Learning and Auto-Aging
- Easy Installation, Plug-and-play installation with no configuration required
- Support Store-and-forward Switching with Backplane Bandwidth of 1Gbps to 48Gbps
- Surge protection ±2 kV
- All ports support jumbo frame transmission.
- Plug and Play design simplifies installation with self-adaption.
- Compact, fan-less, silent design with Small form-factor. Perfect for noise sensitive environments.
- Energy-Saving by Energy Efficient Ethernet (EEE), which enables the switch to enter a power-saving mode when traffic is light.
- Automatically adjust the PoE/PoE+ power for connected PoE devices based on cable length.
- With Zero Touch Provisioning with Plug and play and no setup.
- Affordable, Easy-to-Use Switches for Small Business Networks, with Zero Configuration Required

Features and Benefits

PoE/PoE+ Capabilities

COMMANDO Scout E300 Series Switches some models Support up to 120W (PoE/PoE+) Power Budget. This series switches smartly adjust IEEE802.3af/ IEEE802.3at (PoE/PoE+) with up to 30 watts per port. All ports in PoE/PoE+ capable switch allows Power-over-Ethernet (PoE /PoE+) to connect and power PoE/PoE+ capable cameras, Wireless access points, VoIP phones, IoT and all PoE/PoE+ capable devices using just Ethernet cabling.

Passive PoE Capabilities

COMMANDO Scout E300 Series Switches some models Support up to 120W non-standard form of PoE used to power over the Ethernet cable, but no negotiation or communication process is required. Passive PoE doesn't conform to any IEEE standards usually refers to any device using PoE that is not 802.3af or 802.3at such as wireless bridges, cameras and radio antennas that run on 24V PoE, It does not perform a handshake, So it is extremely important to know what PoE voltage your device requires before plugging in the Ethernet cable and powering it up. If you connect the wrong voltage you may cause permanent electrical damage to the device.

Auto MDIX capabilities

Auto sensing/Auto PoE/PoE+ 10/100 or 10/100/1000M ports with auto MDIX capabilities which also removes speed and duplex mismatches automatically as well as covers larger physical distance with copper pairs compared to other brands best switches.

Compact, Fan-less and Noise-less performance

Small form-factor, fan-less design for silent operation. Perfect for noise sensitive environments.

Green Technology

It features the energy-efficient Ethernet that can save power. It automatically adjusts power consumption according to the link status to limit the carbon footprint of your network. It also complies with RoHS, prohibiting the use of certain hazardous materials. Besides that, most of the packaging material can be recycled and reused.

Easy to Use

COMMANDO Scout E300 Series Switches are easy to use and manage. All switches are unmanaged, Plug-and-Play devices that requires no configuration, so setup is simple and hassle-free. It is having desktop or rack mounting /wall mounting enclosure option as per model basis. Auto MDI/MDI-X crossover on all ports eliminate the need for crossover cables or uplink ports. Auto-Negotiation on each port senses the link speed of a network device (Either 10, 100 or 1000) and smartly adjusts for compatibility and optimal performance. Its compact size makes it ideal for desktops with limited space. Dynamic LED lights provide real-time work status display and basic fault diagnosis.

Compact Design with Flexibility of additional ports

The switches provide additional deployment flexibility, fiber connectivity for easy expansion of your networks up to 20Km with fiber connectivity. So, you can directly connect to a high-performance storage server or deploy a long-distance uplink to another switch.

Longer Distance Coverage

State of art quality switches that can serve real time high-speed performance which covers longer physical distance up to 250 meters with copper pairs compared to other brands.

Supports Uninterrupted Critical Network Infrastructure

It has DC input power to enable UPS to mitigate power supply failures. It automatically senses when the internal power supply of a connected device fails and provides power to that device, preventing loss of network traffic and support critical network infrastructure. These series Switches protect from power surges through their inline power supply automatically and have in build Surge protection of ±2KV. With this feature protect on cost and the impact to your business by losing these network devices and thus the users/servers connected to them.

Cost Efficient

State of art quality product that can serve on real time high-speed Performance with AC input power which covers larger physical distance with copper pairs compared to other brands best switches and are highly reliable, conformance to international open standards, durable, serviceable, aesthetics, perceived quality, enhanced performance with larger range with copper cables up to 250m and usability leads to value to money.

Hardware

COMMANDO Scout E300 Series Switches supports IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, IEEE 802.3z Gigabit Ethernet, IEEE 802.3x Flow Control, IEEE 802.3af/at. Supported Auto-MDIX function automatically identify straight forward cable and cross-over cable. Support port auto-negotiation function (Automatically negotiate transmission rate and Duplex modes). Support the Energy Efficient Ethernet (IEEE 802.3az) standard, which reduces energy consumption by monitoring the amount of traffic on an active link and putting the link into a sleep state during quiet periods.

Solid performance with non-blocking architecture

- All ports capable of Auto-Negotiation/Auto MDI/MDIX.
- Solid performance with non-blocking architecture, 2000 entries MAC Address Table with 4-way hashing algorithm.
- Maximum packet length 2048 bytes.
- 2-hash algorithm selection for L2 table searching/learning with Aging timer range from 0.2s to 1600000s.
- Switching Capacity: up to 96 Gbps
- Forwarding Capacity: Up to 71.42 Mpps
- Store-and-forward Switching Scheme.

Physical Ports and Networking Interfaces

- Up to 48 x 10/100 or 10/100/1000 Mbps Rj45 Ethernet Ports with separate 2FE/2GE (RJ-45) / 2G (SFP fiber). With Extra fixed 2 Ports increase port capacity with flexible Ethernet 1G Fiber/ 1GE/ 1FE Copper for additional separate Switchports /Uplinks.
- LED Indicators: Power, Link/Act, PoE Max.

IEEE 802.3af/at Compliant Power over Ethernet

- Power budget 65W and 120W depending on model for 4, 5, 8, 16, 24 & 48 ports PoE/PoE+/ Passive PoE Switch models. 30W Max Per port (PoE/PoE+) power supply transmission is more reliable due to design of robust network transformer which uses high current. All PoE/PoE+ ports are IEEE 802.3af-compliant PoE, IEEE802.3at-compliant PoE+. All port can delivers 15.4 W PoE as well as 30 W PoE+ power. PD detection will automatically detect and provide required power for your PoE/PoE+ PD devices.

Extra Long Operational life

- High Quality PCB Circuit Board and PCB Surface Treatment Using Gold Sinking Process.
- Support temperature range 0° C to 55° C
- Surge protection up to ±2KV to designed to automatically protect Switches from surge events by limiting transient voltages and diverting surge currents.
- Long life electrolytic capacitance to increase the operational life of switches. RJ45 Gold plated with 3U thickness.
- Desktop, Rack and Wall mount design that enables to mounts in an EIA-standard 19-inch telco rack or equipment cabinet along with Rack-mounting kit available with device. Which enables horizontal surface mounting, wall mounting and also having durable robust metal body.

Green Energy and Silent operation

- Comply with IEEE 802.3az (Energy-Efficient Ethernet) standard, reduces power consumption up to 58% and reduce the noise pollution. Energy Efficient Ethernet (EEE) on the RJ-45 ports and low-power operations for industry best-in-class power management and power consumption capabilities. The ports support reduced power modes so that ports not in use can move into a lower power utilization state.
- Small form-factor, fan-less design for silent operation. Perfect for noise sensitive environments.

Ethernet Protocols

- Supports wide range of IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, IEEE 802.3z Gigabit Ethernet, IEEE 802.3x Flow Control, 802.1p priority, Energy Efficient Ethernet, IEEE802.3af, Power over Ethernet, IEEE802.3at, Power over Ethernet plus

Enterprise high reliability design and high quality product

- Very high Quality as for all Mean Time Before Failure of system, MTBF > 200,000 hours
- Stability: 64bit packet, time delay < 10us, packet loss rate: 0
- Restorability of Network shaking or device breakdown, restart(recovery) time < 60sec.
- RoHS Compliant with most of the packaging material can be recycled and reused.

Specifications

COMMANDO Scout E300 series Switches supports IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, IEEE 802.3z Gigabit Ethernet, IEEE 802.3x Flow Control, IEEE 802.3af/at. Supported Auto-MDIX function automatically identify straight forward cable and cross-over cable. Support port auto-negotiation function (Automatically negotiate transmission rate and Duplex modes). Support the Energy Efficient Ethernet (IEEE 802.3az) standard, which reduces energy consumption by monitoring the amount of traffic on an active link and putting the link into a sleep state during quiet periods.

Table 1. Technical Specifications

Parameter	Specification
Flash (KB)	16Kbytes
Switching Method	Store and Forward
MAC Address Table Size	2000 entries
Maximum packet length	2048 bytes
Operation Temperature	0° to 55°C
Storage Temperature	-20° to 70°C
Operation Humidity (relative, non- condensing)	10% to 90%
Storage Humidity (relative, non- condensing)	5% to 90%
Input Power Supply	DC: 12V-1A, AC: 180~240V 50/60Hz, AC: 100~240V 50/60Hz (Model Dependent)
Weight	<2Kg
LED Indicator	Link/Act, PoE, Power
Energy Saving	Comply with "EEE" Energy Efficient Ethernet (IEEE 802.3az)
Surge protection (kV)	±2 kV
Rack-mountable	Desktop and Rack-mountable
Fan (Number)	Fan-less

Auto MDI/MDI-X adjusts automatically for straight-through or crossover cables on all 10/100/1000 ports. Loop protection, if the switch detects a loop, it disables the source port from forwarding data packets originating from the switch to avoid broadcast storms. SFP fiber uplinks provide greater distance connectivity using Gigabit fiber uplinks. The switch provides an estimated cumulative energy savings due to green Ethernet features being auto enabled.

Table 2. Basic Hardware Specifications

PRODUCT CODE	Ports	Main Interface	Uplink Interfaces
E300-16	16 x 10/100Mbps Ethernet ports	16 FE	-
E300-24	24 x 10/100Mbps Ethernet ports	24 FE	-
E300-8G	8 x 10/100/1000Mbps Ethernet ports	8 GE	-
E300-16G	16 x 10/100/1000Mbps Ethernet ports	16 GE	-
E300-24G	24 x 10/100/1000Mbps Ethernet ports	24 GE	-
E300-4P+2FE	4 x 10/100Mbps Ethernet PoE+ ports 2 x 10/100Mbps Ethernet Uplink ports	4 FE	2 FE
E300-8P+2FE	8 x 10/100Mbps Ethernet PoE+ ports 2 x 10/100Mbps Ethernet Uplink ports	8 FE	2 FE
E300-8P+2FE-24V	8 x 10/100Mbps Ethernet Passive PoE 24V ports 2 x 10/100Mbps Ethernet Uplink ports	8 FE	2 FE
E300-8P+2GE	8 x 10/100Mbps Ethernet PoE+ ports 2 x 10/100/1000Mbps Ethernet Uplink ports	8 FE	2 GE
E300-4GP+2GE	4 x 10/100/1000Mbps Ethernet PoE+ ports 2 x 10/100/1000Mbps Ethernet Uplink ports	4 GE	2 GE

E300-4GP+2SFP	4 x 10/100/1000Mbps Ethernet PoE+ ports 2 x 1G SFP Uplink ports	4 GE	2 SFP
E300-8GP+2GE	8 x 10/100/1000Mbps Ethernet PoE+ ports 2 x 10/100/1000Mbps Ethernet Uplink ports	8 GE	2GE
E300-8GP+2SFP	8 x 10/100/1000Mbps Ethernet PoE+ ports 2 x 1G SFP Uplink ports	8 GE	2 SFP

Table 3. Power Budget and Enclosure Type

PRODUCT CODE	Power Budget	Enclosure Type
E300-16	12W	Desktop, Rack/Wall mountable - 1U
E300-24	12W	Desktop, Rack/Wall mountable - 1U
E300-8G	12W	Desktop
E300-16G	24W	Desktop, Rack/Wall mountable - 1U
E300-24G	24W	Desktop, Rack/Wall mountable - 1U
E300-4P+2FE	65W	Desktop
E300-8P+2FE	120W	Desktop
E300-8P+2FE-24V	120W	Desktop
E300-8P+2GE	120W	Desktop
E300-4GP+2GE	65W	Desktop
E300-4GP+2SFP	65W	Desktop
E300-8GP+2GE	130W	Desktop
E300-8GP+2SFP	120W	Desktop

IEEE 802.3X Flow Control Provides a flow throttling mechanism propagated through the network to prevent packet loss at a congested node. IEEE 802.3 af/at Power over Ethernet (PoE/PoE+) Provides up to 30W per port, and 24V Passive PoE which allows support of the latest PoE/PoE+ Passive PoE capable devices such as Video IP phones, wireless access points, and advanced pan/tilt/zoom security cameras, as well as any 24V non-standard PoE compliant end device. This ensures that cost of additional electrical cabling and circuits reduced to zero. PoE/ PoE+/ Passive PoE availability on all ports.

Table 4. Advanced Hardware Specifications

Product Code	Max no. of PoE+ (IEEE 802.3at) Ports	Max no. of PoE (IEEE 802.3af) Ports	Power Supply
E300-16	-	-	AC: 100~240V 50/60Hz
E300-24	-	-	AC: 100~240V 50/60Hz
E300-8G	-	-	DC: 12V-1A
E300-16G	-	-	AC: 100~240V 50/60Hz
E300-24G	-	-	AC: 100~240V 50/60Hz
E300-4P+2FE	2 ports up to 30W	All ports up to 15.4W	AC: 180~240V 50/60Hz
E300-8P+2FE	4 ports up to 30W	All ports up to 15.4W	AC: 180~240V 50/60Hz
E300-8P+2FE-24V	-	All ports up to 24V	AC: 180~240V 50/60Hz
E300-8P+2GE	4 ports up to 30W	All ports up to 15.4W	AC: 180~240V 50/60Hz
E300-4GP+2GE	2 ports up to 30W	All ports up to 15.4W	AC: 180~240V 50/60Hz
E300-4GP+2SFP	2 ports up to 30W	All ports up to 15.4W	AC: 180~240V 50/60Hz
E300-8GP+2GE	8 ports up to 130W	All ports up to 15.4W	AC: 180~240V 50/60Hz
E300-8GP+2SFP	4 ports up to 30W	All ports up to 15.4W	AC: 180~240V 50/60Hz

The switching capacity indicates the total data exchange capability of the switch, in Gbps. MTBF is a basic measure of a system's reliability. This series Switch is having higher MTBF, means very reliable product.

Table 5. Switching Capacity, Forwarding Rate and MTBF Specifications

PRODUCT CODE	Switching Capacity(Gbps)	Packet Filtering Forwarding Rates (64-byte packet size Mpps)	Mean time between failures MTBF (hours)
E300-16	3.2	2.38	318995
E300-24	4.8	3.57	399452
E300-8G	16	11.90	249564
E300-16G	32	23.80	249564
E300-24G	48	35.71	319052
E300-4P+2FE	1,2	0.89	240564
E300-8P+2FE	2	1.48	215640
E300-8P+2FE-24V	2	1.48	214951
E300-8P+2GE	20	14.88	209454
E300-4GP+2GE	12	8.92	200564
E300-4GP+2SFP	12	8.92	290133
E300-8GP+2GE	20	14.88	289344
E300-8GP+2SFP	20	14.88	289344

Table 6. LED Indication

LED Indication on Switch	LED Status
Power	Green OFF: No power on the switch. Green ON: The switch powered on
Link/Act	LINK/ACT LED: OFF: Port disconnected or link fail. Green ON: 10/100Mbps or 10/100/1000Mbps connected. Green Flashing: 10/100/ 1000Mbps connected and Data in transit
PoE	OFF: PoE/PoE+/ Passive PoE 24V power is not provided on port Blue ON: PoE/PoE+/ Passive PoE 24V power is provided on port

Table 7. Maximum Cable Lengths

Connection Cable Type	Category and Speed	Maximum Cable Distance Supported
Unshielded Twisted Pair cable	10/100Base-TX: UTP category 5/5e/6 cables (Maximum 100m) 1000Base-T: UTP Category 5/5e/6 cable (Maximum 100m)	100M
Shielded Twisted Pair cable	10/100Base-TX: STP category 5/5e/6 cables (Maximum 250m) 1000Base-T: UTP Category 5/5e/6 cable (Maximum 100m)	250M/100M
Optical Fiber Cable	550M~20KM Depending on SFP	20KM

SFP ports Slots specifications

It has 1G/1GE Gigabit Ethernet fiber-based or Gigabit Ethernet copper based Small Form-Factor Pluggable with granular port densities that fit diverse campus needs. The SFP transceiver is a compact, hot-swappable device that plugs into a physical port of a network device. SFP optics are used in communication networks and have a transmitting side (Tx) and a receiving side (Rx). The different SFP transceivers work with different wavelengths at an appointed distance. 1G fiber solution or 1GE copper fixed uplinks.

Table 8. SFP specifications

PRODUCT CODE	SUPPORTING SFP
SFP-SM-1G	COMMANDO LightningFIBER 1000BASE-LX/LH, SFP, 1310nm, 20km, SMF, DDM, Multi-vendor Compatible
SFP-MM-1G	COMMANDO LightningFIBER 1000BASE-SX, SFP, 850nm, 550m, MMF, DDM, Multi-vendor Compatible
SFP-UTP-1G	COMMANDO LightningCOPPER 1000BASE-T Copper RJ-45, SFP, 100m, CAT5/6, Multi-vendor Compatible

Power Supply Specifications

Power supply is a king of all electronic devices without the power supply switch cannot work. Following rating power input required to make switch work.

Table 9. Power supply specifications

Power supply	AC or DC Depending on models
Input-voltage	DC: 12V-1A AC: 100~240V 50/60Hz AC: 180~240V 50/60Hz Depending on models

Included in the bundle/box

All Scout E300 Series Unmanaged Switches are made available for use globally along with accessories in the bundle to facilitate for enhance operations.

The switch box comes included with the following accessories:

1x COMMANDO Scout E300 Series Switch

1x DC: 12V-1A or AC: 100~240V 50/60Hz or AC: 180~240V 50/60Hz Adapter with Cable depending on model

Support and Warranty

- Same-day assistance.
- Comprehensive 24-hour support using common communication/chat platforms, Email and Telephone.
- Provide FAQs and troubleshooting help online (self-service) through cloud-based solutions.
- Highly technical and trained representatives to resolve issues.
- One-year default warranty

Table 10. Support and Warranty

Warranty and Support	
Products covered	COMMANDO Scout E300 Series Unmanaged Switches
Warranty duration	One Year RTB (Return To Base) replacement warranty.
Hardware replacement	COMMANDO, its resellers or its service center will use commercially reasonable efforts to replace the product subject to stock availability. Otherwise, a replacement will be arranged within 15 working days after receipt of the Return Materials Authorization (RMA) request.
End-of-life policy	In case of discontinuation of the product, support is limited to 3 years from announcement date.
Effective date	Hardware warranty commences from the date of shipment to customer (and in case of resale by a COMMANDO reseller, not more than 90 days after original shipment by COMMANDO).
Support duration	Lifetime support.
COMMANDO Care	COMMANDO will provide 24x7 support for basic configuration, diagnosis, and troubleshooting of device-level problems for up to one year from the date of shipment of the originally purchased product. This support does not include solution or network-level support beyond the specific device under consideration.
Online Portal Access	Warranty allows guest access to commandonetworks.com for all available technical queries.

Ordering Information

Table 11 lists ordering information for the COMMANDO Scout E1000 Series Unmanaged Switches. To place an order, please contact your local reseller/distributor or COMMANDO Sales Representative at www.commandonetworks.com/rfq

Table 11. Ordering Information

Ordering Information	
Product Code	Description
E300-16	COMMANDO Scout E300 16FE, Unmanaged Switch
E300-24	COMMANDO Scout E300 24FE, Unmanaged Switch
E300-8G	COMMANDO Scout E300 8GE, Unmanaged Switch
E300-16G	COMMANDO Scout E300 16GE, Unmanaged Switch
E300-24G	COMMANDO Scout E300 24GE, Unmanaged Switch
E300-4P+2FE	COMMANDO Scout E300 4FE PoE+, 2FE Uplinks, 65W, Unmanaged Switch
E300-8P+2FE	COMMANDO Scout E300 8FE PoE+, 2FE Uplinks, 120W, Unmanaged Switch
E300-8P+2FE-24V	COMMANDO Scout E300 8FE 24V PoE, 2FE Uplinks, 120W, Unmanaged Switch
E300-8P+2GE	COMMANDO Scout E300 8FE PoE+, 2GE Uplinks, 120W, Unmanaged Switch
E300-4GP+2GE	COMMANDO Scout E300 4GE PoE+, 2GE Uplinks, 65W, Unmanaged Switch
E300-4GP+2SFP	COMMANDO Scout E300 4GE PoE+, 2SFP Uplinks, 65W, Unmanaged Switch
E300-8GP+2GE	COMMANDO Scout E300 8GE Full PoE/PoE+, 2GE Uplinks, 130W, Unmanaged Switch
E300-8GP+2SFP	COMMANDO Scout E300 8GE PoE+, 2SFP Uplinks, 120W, Unmanaged Switch

Document History

Release	What's new	Date
Release 1	First Release	January 4, 2021
Release 2	More models added	June 8, 2022
Release 3	More models added	September 18, 2023