



# COMMANDO SF/SG Series Unmanaged Switches Data Sheet

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## Product Overview

COMMANDO SG/SF 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+ capability while reducing energy consumption and minimizing noise. This series switches are available in 4 to 24 Gigabit Ethernet ports, 4 to 24 Fast Ethernet Ports and 2 modular Copper/fiber 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 for 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+ reliable performance at a very affordable cost. This switch Giga ethernet high-speed network connectivity, auto-negotiation for optimal speed detection through RJ45 Category 5, 5e or 6 cables.

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. It can smartly automatically adjust the PoE/PoE+ power output for transmissions based on the cable length for PoE/PoE+ devices connected . It can also set any ports that are not transmitting traffic to sleep mode.

## Product Highlights

- 4 to 24 \* 10/100/1000Mbps Ethernet Ports along with flexible fiber/copper Uplinks and

## PoE(PoE+) & Non PoE Models.

- All 4 to 24 ports support auto-negotiation and auto MDI/MDIX.
- Extra 2 Ports slots with flexible Ethernet Fiber/Copper Switchports or Uplinks.
- Enclosure Type either Desktop or Rack/Wall mountable - 1U.
- PoE/PoE+ models to provide power on all ports to IEEE 802.3af and IEEE 802.3at capable devices including Wireless AP, Bridges, IoT etc. having power budget up to 150W.
- All ports have PoE/PoE+ capability and 30W Max Per port.
- PD detection will automatically detect and provide required power for your PoE/PoE+ devices.
- Easy Installation, Plug-and-play installation with no configuration required
- Support Store-and-forward Switching
- Backplane Bandwidth: 1Gbps to 48Gbps
- MAC address Table: 2000 entries
- MAC Address Auto-Learning and Auto-Aging
- Surge protection  $\pm 2$  kV
- All ports support jumbo frame transmission.
- Plug and Play design simplifies installation with self-adaption.
- Compact, fanless, 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: Plug and play and no setup.
- Affordable, Easy-to-Use Switches for Small Business Networks, with Zero Configuration Required

## Features and Benefits

### Easy to Use

COMMANDO SG/SF 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.

### **PoE/PoE+ Capabilities**

COMMANDO SG/SF Series Switches some models Support up to 150W (PoE/PoE+) Power Budget. This series switches smartly adjust IEEE802.3af/ IEEE802.3at PoE/PoE+ (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.

### **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, Fanless and Noise-less performance**

Small form-factor, fanless 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.

### **Compact design with flexibility of additional ports**

Provides additional deployment flexibility, fiber connectivity combo options for easy expansion of your networks. So, you can directly connect to a high-performance storage server or deploy a long-distance uplink to another switch.

### **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  $\pm 2KV$ . 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 SG/SF 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 48Gbps
- Store-and-forward Switching Scheme.

## **Physical Ports and Networking Interfaces**

- Up to 24 x 10/100 or 10/100/1000 Mbps Rj45 Ethernet Ports with separate 2 SFP or Extra 2 Giga Ethernet Ports to increasing port capacity with flexible Ethernet Fiber/Copper

Switchports /Uplinks.

- LED Indicators :Power, Link/Act.

## **IEEE 802.3af/at Compliant Power over Ethernet**

- Various power budget options like 75W and 150 W for 4, 8,and 16 ports PoE/PoE+ Switch models. 30W Max Per port (PoE/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+. Each port delivers 15.4 W PoE, 30 W PoE+ power. PD detection will automatically detect and provide required power for your PoE/PoE+ 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  $\pm 2$ KV 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.
- 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, fanless 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 SG/SF 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. COMMANDO SG/SF Series Switches Technical Specifications**

<b>SG/SF Switch Parameter</b>	<b>Specification</b>
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	12V DC, 1A and 52V DC, 1.44A (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)	Fanless

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. COMMANDO SG/SF Series Unmanaged Switches Basic Hardware Specifications**

SR	Product Code	Ports	Main Interface	Uplink Interfaces	Power Budget	Enclosure Type
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1	SF50-5	5 10/100M ports	5 FE	-	5W	Desktop
2	SF100-5	5 10/100M ports	5 FE	-	5W	Desktop
3	SF50-8	8 10/100M ports	8 FE	-	12W	Desktop
4	SG100-5	24 10/100/1 000M ports	5 GE	-	12W	Desktop
5	SF100-8	8 10/100M ports	8 FE	-	12W	Desktop
6	SG100-8	8 10/100/1 000M ports	8 GE	-	12W	Desktop
7	SF300- 4P+2FE	8 10/100 ports 2 10/100/1 00M SFP Uplink slot	4 FE	2FE	65W	Desktop

8	SF100-16	16 10/100 ports	16 FE	-	24W	Rack/Wall mountable - 1U
9	SF100- 16D	16 10/100M ports	16 FE	-	24W	Desktop
10	SF300- 8P+2FE	8 10/100M ports 2 10/100M Uplink slot	8 FE	2 FE	120W	Desktop
12	SF300- 8P+2GE	8 10/100M ports 2 10/100/1 000M Uplink slots	8 FE	2 GE	150W	Desktop
13	SF100-24	4 10/100M ports	24 FE	-	24W	Desktop
14	SG100-24	24 10/100/1 000M ports	24 GE	-	24W	Desktop

15	SG300- 8P+2SFP	8 10/100/1 000M PoE+ ports 2 1G SFP Uplink slot	8 GE	2 SFP	150W	Desktop
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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 30 W per port, which allows support of the latest PoE/PoE+ capable devices such as Video IP phones, wireless access points, and advanced pan/tilt/zoom security cameras, as well as any 15.4 W IEEE 802.3af-compliant end device. This ensures that cost of additional electrical cabling and circuits reduced to zero. PoE/ PoE+ availability on all ports. Auto-PoE power configuration means switch automatically assigns the required power to a port for a PD device.

**Table 3. COMMANDO SG/SF Series Unmanaged Switches Advanced Hardware Specifications**

SR #	Product Code	Max no. of PoE+ (IEEE 802.3at) Ports	Max no. of PoE (IEEE 802.3af) Ports
1	SF50-5	-	-
2	SF100-5	-	-
3	SF50-8	-	-
4	SG100-5	-	-
5	SF100-8	-	-
6	SG100-8	-	-

7	SF300-4P+2FE	2 ports up to 30W	All ports up to 15.4W
8	SF100-16	-	-
9	SF100-16D	-	-
10	SF300-8P+2FE	3 ports up to 30W	All ports up to 15.4W
12	SF300-8P+2GE	3 ports up to 30W	All ports up to 15.4W
13	SF100-24	-	-
14	SG100-24	-	-
15	SG300-8P+2SFP	4 ports up to 30W	All ports up to 15.4W

**Table 4. COMMANDO SG/SF Series Unmanaged Switches LED Indication**

<b>LED Indication on Switch</b>	<b>LED Status</b>
Power	Green OFF: No power on the switch. Green ON: The switch powered on

Link/Act	<p>LINK/ACT bi-color LED:</p> <p>OFF: Port disconnected or link fail.</p> <p>Green ON: 1000Mbps connected.</p> <p>Amber ON: 10/100Mbps connected.</p> <p>Green Flashing: 1000Mbps connected and Data in transit</p> <p>Amber Flashing: 10/100Mbps connected and Data in transit</p>
PoE	<p>OFF: PoE/PoE+ power is not provided on port</p> <p>Blue ON: PoE/PoE+ power is provided on port</p>

### **Included in the bundle/box**

All SG/SF 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 SG/SF Series Switch
- 1x 12V-1A or 52V-1.44A Adapter with Cable

## 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

### Support and Warranty

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End-of-life policy	In case of discontinuation of the product, support is limited to 3 years from announcement date.
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Online Portal Access	Warranty allowances to command networks.c om for all available technical queries.
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## Ordering Information

Table 6 lists ordering information for the COMMANDO E1000 Series Unmanaged Switches. To place an order, please contact your local reseller/distributor or COMMANDO

Sales Representative at

## **COMMANDO SG/SF Series Unmanaged Switches**

<b>Product Code</b>	<b>Description</b>
SF50-5	COMMANDO SF50 5FE, Unmanaged Switch
SF100-5	COMMANDO SF100, 5FE, Unmanaged Switch
SF50-8	COMMANDO SF50 8FE, Unmanaged Switch
SG100-5	COMMANDO SG100, 5GE, Unmanaged Switch
SF100-8	COMMANDO SF100 8FE, Unmanaged Switch
SG100-8	COMMANDO SG100, 8GE, Unmanaged Switch
SF300-4P+2FE	COMMANDO SF300 4FE PoE+, 2FE Uplinks, 65W, Unmanaged Switch
SF100-16	COMMANDO SF100 16FE, Unmanaged Switch
SF100-16D	COMMANDO SF100 16FE, Desktop, Unmanaged Switch
SF300-8P+2FE	COMMANDO SF300 8FE PoE+, 2FE Uplinks, 120W, Unmanaged Switch

SF300-8P+2GE	COMMANDO SF300 8FE PoE+, 2GE Uplinks, 150W, Unmanaged Switch
SF100-24	COMMANDO SF100 24FE, Unmanaged Switch
SG100-24	COMMANDO SG100, 24GE, Unmanaged Switch
SG300-8P+2SFP	COMMANDO SG300 8GE PoE+, 2SFP Uplinks, 150W, Unmanaged Switch



## Document History

<b>Release</b>	<b>New or Revision</b>	<b>Described in</b>	<b>Date</b>
Release 1	First Release	First Release	January 4, 2021