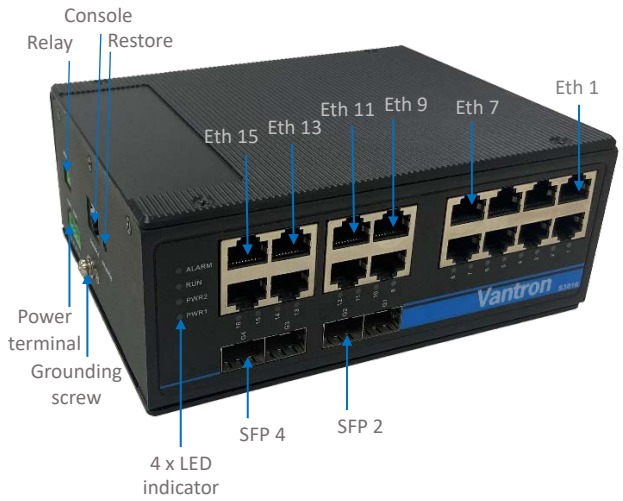
S3016 Managed Industrial Switch

Product Brief

Vantron S3016 is a multi-port managed Gigabit Ethernet switch. Featuring 16 Gigabit Ethernet copper ports stacked in two layers, the switch also offers 2 Gigabit SFP fiber slots, delivering high-speed connectivity and efficient switching capability. The switch supports a complete lineup of Layer 2 features, including quality of service (QoS), Internet group management protocol (IGMP) snooping, Ethernet ring protection switching (ERPS), 802.1ad VLAN tagging, multiple broadcast domains, and more. It implements robust security strategies, such as access control list (ACL), 802.1x authentication, and multiple queue scheduling algorithms, to protect the management data and prevent against malicious attacks. It provides advanced features for network maintenance, such as loopback detection, cable diagnostics and SFP digital diagnostic monitoring interface (DDMI), ensuring improved device reliability. Moreover, it supports a broad portfolio of network protocols and industrial standards to deliver advanced traffic handling capability and reliable connectivity performance.

Vantron S3016 offers user-friendly management features, such as intuitive web-based graphical user interface (GUI) and industry-standard command line interface (CLI) for easy management. It supports redundant power input to provide reliable network architecture. The DIN rail mounting bracket on the rear panel provides the flexibility for large-scale industrial deployment. Moreover, the switch is designed to operate at an extended temperature range from -40℃ to 75℃, making it an ideal solution for industrial IoT applications such as smart grid, rail transit, smart city, warehousing, renewable energy, and smart manufacturing.

Exterior and Features



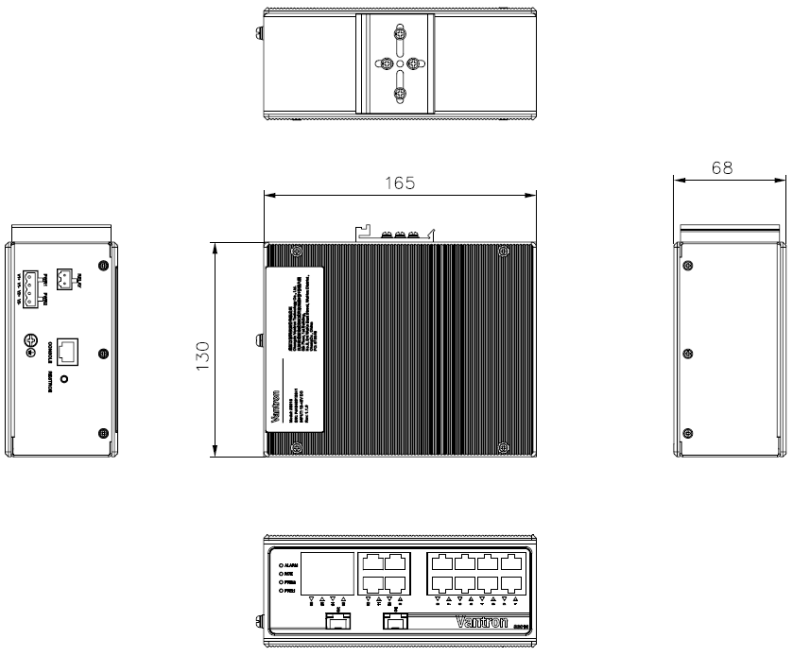
S3016	
	16 x Gigabit copper port, 2 x Gigabit SFP fiber slot
	GUI, CLI, SNMP v1/v2c/v3, RMON, MIB, SSH, Telnet
	Port control, port mirroring, flow control
	VLAN (802.1Q, 802.1ad)
	802.1x authentication, ACL, QoS
	Redundant power supply
	Alarm relay & factory reset support
	Wide temperature range & input voltage

S3016 Managed Industrial Switches Datasheet

Key Hardware Specifications			
System	Memory	256MB DDR2	
	Storage	32MB flash	
Ethernet	Gigabit copper port	16 x RJ45, 10/100/1000M Base-T (X), automatic flow control, full/half duplex mode, MDI/MDI-X	
	Gigabit fiber port	1 x SFP, 1G Base-X	1 x SFP, 1G/2.5G Base-X
	Standards	10Base-T: IEEE 802.3 100Base-TX: IEEE 802.3u 1000Base-T: IEEE 802.3ab 1000Base-X: IEEE 802.3z Flow control: IEEE 802.3x	
Data Transfer	Switching capability	>42Gbps	
	Forwarding mode	Store and forward	
	Packet buffer	4Mbit	
	Packet forwarding rate	62.49Mpps	
	MAC address table	8K	
I/Os	RJ45 console port	1 x RS232 (115200, 8N1)	
	Alarm relay	1 x 2-pin x 7.62mm (Current load: 1A @24VDC)	
System Control	Button	1 x Restore button (press for more than 10s to factory reset the device)	
	LED indicator	ALARM: System fault indicator RUN: Normal operation indicator	PWR2: Backup power indicator PWR1: Main power indicator
Mechanical	Dimensions	165mm x 130mm x 68mm	
	Installation	DIN rail mounting	
Power	Input	12V~48V DC/16~30V AC (12V/2A DC recommended), 1 x 4-pin x 5.0mm terminal block (Dual redundant power supply, over-current protection, reverse polarity protection)	
	Consumption	<5.5W (Idle); < 15W (Full load)	
Environment Condition	Temperature	Operating: -40℃ ~ +75℃	Storage: -40℃ ~ +85℃
	Humidity	Operating: 0-90% RH (Non-condensing)	Storage: 0-90% RH (Non-condensing)
	Certification	CE, FCC, UL	
EMS	Industry standards	FCC CFR47 Part 15, EN55032/CISPR22, Class A IEC61000-4-2 (ESD): ±6kV (contact), ±8kV (air) IEC61000-4-3 (RS): 10V/m (80MHz ~ 2GHz) IEC61000-4-4 (EFT): Power port: ±2kV, Data port: ±1kV IEC61000-4-5 (Surge): Power port: ±1kV/DM, ±2kV/CM, Data port: ±2kV/CM IEC61000-4-6 (CS): 10V (150kHz ~ 80MHz)	

Key Software Specifications			
Management	Management access	Web-based GUI: Parameter configuration, multi-user administration, role segregation	
		Command line interface (CLI): SSH/Telnet remote access & configuration	
	Protocols & features	SNMP v1/v2c/v3, RMON (1, 2, 3, 9 groups), HTTPS, port mirroring, LLDP, DHCP server, TFTP, FTP, Syslog, MIB, NTP, SNTP, ARP, TCP/UDP	
Connectivity Diagnostics	Ping & traceroute	IPv4	
	Unidirectional link detection	UDLD for incorrect wiring or cable/port faults	
	Cable diagnostics	TDR cable diagnostics	
	Port monitoring	Loopback detection	
	Digital diagnostic monitoring	SFP port DDM	
	System alarms	Linkage relay, web alarm, CLI alarm, SNMP alarm	
Layer 2 Switching	MAC address table	MAC address learning and aging	
	Port control	Speed/duplex mode	
	Port statistics	MIB counters	
	Link aggregation	Static aggregation; IEEE 802.3ad port trunking (LACP)	
	Spanning tree protocol	IEEE 802.1d standard STP; IEEE 802.1w RSTP; IEEE 802.1s MSTP	
	VLAN	IEEE 802.1Q tagged VLAN IEEE 802.1ad tagged VLAN (Q-in-Q) Port-based VLAN	MAC-based VLAN Protocol-based VLAN IP subnet-based VLAN
	Port mirroring	One-to-One, Many-to-One	
	Flow control	IEEE 802.3x	
	IGMP snooping	IGMP V1/V2/V3	
	Ethernet ring protection switching (ERPS)	ITU-T G.8032 ITU-T G.8032 V2 ITU-T G.8031 - 1:1 protection	Media redundancy protocol (MRP) IEEE-802.1CB frame replication and elimination for reliability (FRER)
Synchronization	Synchronous Ethernet (SyncE)	ITU-T G.803; ITU-T G.826x; ITU-T G.781	
	Precision Time Protocol (PTP)	IEEE 1588; IEEE 1588v2	
Quality of Service	Priority	IEEE 802.1p priority (CoS)	
	Traffic policing	Port-based traffic policing	
	Queue scheduling	8 queues per port; Egress shaping Deficit weighted round robin (DWRR) + strict priority (SP)	
	Remark policy	DSCP remarking	
	Bandwidth control	ARP speed limit	
Security	Access control list	Standard ACL; extended ACL; MAC ACL	
	Authentication	IEEE 802.1X port-based authentication	
	Storm control	Broadcast; multicast; unknown unicast	
	IP binding	IP/MAC Address Binding	

Product Outlines



Ordering Information

Ordering No.	RJ45	SFP	Alarm relay	DIN rail mounting bracket
S3016	16	2	1	Yes

Packing list	
S3016 industrial switch	1
DC power connector	1

Optional accessories	
12V Power adapter & power cord	1 kit

Since its establishment in 2002 by two Silicon Valley entrepreneurs, Vantron Technology has been at the forefront of the connected IoT devices and IoT platform solutions. Today, Vantron boasts a global customer base that includes Global Fortune 500 companies. Its product lines cover edge intelligent hardware, IoT communication devices, industrial displays, and BlueSphere cloud platforms.

Vantron offers IoT communication devices that enable multi-protocol connections for industrial equipment and local data processing through edge computing. With abundant wired and wireless connectivity options, remote operations and maintenance have become easier than ever. Such devices can be deployed across different sectors such as smart retail, medical and warehousing. Moreover, Vantron's IoT solutions are designed to facilitate enterprises' digital transformation, streamline operations, enhance productivity, etc.