Cisco Industrial Ethernet 2000 Series Switches

Contents

Product overview

The Cisco® Industrial Ethernet 2000 (IE 2000) Series is a range of compact, ruggedized access switches that handle security, voice, and video traffic across industrial networks. They provide customers in industries such as automotive, oil and gas, mining, transportation, and energy with highly secure access and industry-leading convergence using Cisco Resilient Ethernet Protocol (REP).

Product details

The Cisco IE 2000 Series are designed for low cost, low ports, and small sizes. They offer:

- Four, eight, or 16 10/100Base-T Ethernet ports (Small Form-Factor Pluggable [SFP] downlinks on selected models); fixed configurations with a compact form factor

- Two gigabit combo ports: SFP (100 Mbps and 1 Gbps) or RJ45 uplink

- Dual-input DC power supply, alarm relays, DIN rail mount

- Industrial Power over Ethernet (PoE) solution

- Conformal coating SKUs available (IE-2000-16TC-G-X and IE-2000-16PTC-G- NX)

- Swappable SD flash card and mini-USB connector

- Industrial environmental compliance and certifications

- Industrial partner applications: Ethernet/IP and PROFINET

Primary benefits and features

- **Easy deployment:** Zero-touch discovery using Dynamic Host Control Protocol (DHCP), auto sync to SD card, express setup, and fast boot-up time (60 seconds) to help in migrating to an Ethernet environment without resistance.

- **Security:** 802.1x, port security, and DHCP allow dynamic port-based authentication; Secure Shell (SSHv2); SNMPv3 provides encrypted administrator traffic during Telnet and SNMP sessions; TACACS+ and RADIUS authentication facilitate centralized control and restrict unauthorized users.

- **Resiliency:** Cisco REP ring protocol and PROFINET- Media Redundancy Protocol (MRP)

- **Manageability:** Cisco DNA Center software, Auto SmartPort, Web Device Manager, Telnet, HTTPS access, SNMP, CNA, and Cisco Prime Infrastructure.

- **Network Address Translation (NAT):** Line-rate, hardware-enabled 1:1 static address translation designed to enable duplicate IP address usage in the Layer 2 machine node networks.

- **Layer 3 routing:** IPv4 and IPv6.

- **Industrial PoE:** PoE (IEEE 802.af) and PoE+ (802.3at) supported on selected models.

- **Industrial automation protocols:** EtherNet/IP (CIP) and PROFINET MRP (IEC 62439-2) allow integration with existing management platforms from Rockwell, Siemens, and others.
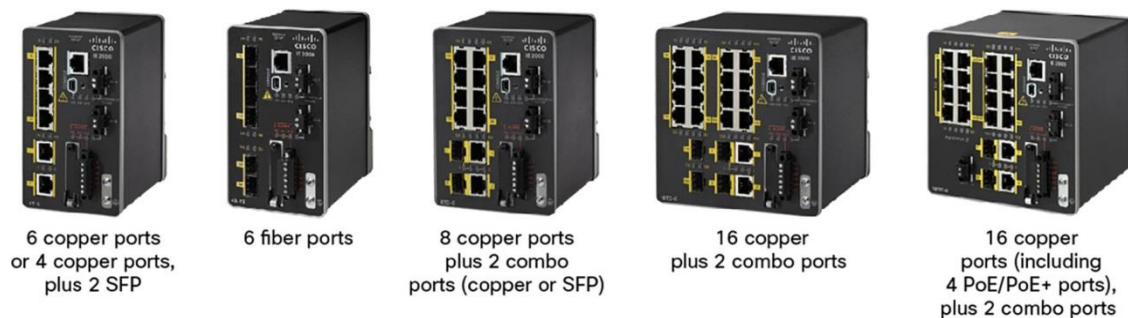
Product specifications

Switch performance and scalability

- Maximum Forwarding Bandwidth 3.8Gbps

- Maximum Switching Bandwidth 7.6Gbps

- Maximum Forwarding rate: 5.66Mpps with 64-byte packets (Line-rate at all packet sizes)

- Egress buffer: 2 MB

- Unicast MAC addresses: 8000

- Internet Group Management Protocol (IGMP) multicast groups: 255

- Maximum virtual LANs (VLANs): 1005

- IPv4 MAC security ACEs: 384 (default Ternary Content-Addressable Memory [TCAM] template)

- Bidirectional, 128 NAT translation entries

- IPv4 routing: 3500 routes, IPv6 routing: 1750 routes

Detailed product information

Figure 1 shows switch models, and Table 1 shows the Cisco IE 2000 Series configuration information. Table 2 lists the SKUs for power supplies and license upgrades. Table 3 includes IE 2000 Series product specifications. Table 4 lists software features. Table 6 details the Cisco DNA Essentials PIDs available for order. Table 7 includes compliance specifications. Table 8 outlines management and relevant industry standards.

6 copper ports
or 4 copper ports,
plus 2 SFP

6 fiber ports

8 copper ports
plus 2 combo
ports (copper or SFP)

16 copper
plus 2 combo ports

16 copper
ports (including
4 PoE/PoE+ ports),
plus 2 combo ports

Figure 1.
Cisco Industrial Ethernet 2000 Series Switches

Table 1.   Industrial Ethernet 2000 Series configurations

Product number	Total ports	RJ45 Copper ports	Combo ports (SFP or RJ45)	SFP ports	Software license	Type of possible upgrade	IEEE 1588	L2NAT	PoE/ PoE(+)	Conformal coating
IE-2000-4TS-L	6	4 FE		2 FE	LAN Lite	3				
IE-2000-4TS-B	6	4 FE		2 FE	LAN Base	1				
IE-2000-4T-L	6	6 FE			LAN Lite	3				

Product number	Total ports	RJ45 Copper ports	Combo ports (SFP or RJ45)	SFP ports	Software license	Type of possible upgrade	IEEE 1588	L2NAT	PoE/ PoE(+)	Conformal coating
IE-2000-4T-B	6	6 FE			LAN Base	1				
IE-2000-4TS-G-L	6	4 FE		2 GE	LAN Lite	3				
IE-2000-4TS-G-B	6	4 FE		2 GE	LAN Base	1				
IE-2000-4T-G-L	6	4 FE, 2 GE			LAN Lite	3				
IE-2000-4T-G-B	6	4 FE, 2 GE			LAN Base	1				
IE-2000-4S-TS-G-L	6			4 FE, 2 GE	LAN Lite	3				
IE-2000-4S-TS-G-B	6			4 FE, 2 GE	LAN Base	1, 3				
IE-2000-8TC-L	10	8 FE	2 FE		LAN Lite	3				
IE-2000-8TC-B	10	8 FE	2 FE		LAN Base	1				
IE-2000-8TC-G-L	10	8 FE	2 GE		LAN Lite	3				
IE-2000-8TC-G-B	10	8 FE	2 GE		LAN Base	1				
IE-2000-8TC-G-E	10	8 FE	2 GE		LAN Base	1, 2, 4	Yes	U*		
IE-2000-16TC-L	20	16 FE	2 FE	2 FE	LAN Lite	3				
IE-2000-16TC-B	20	16 FE	2 FE	2 FE	LAN Base	1				
IE-2000-16TC-G-L	20	16 FE	2 GE	2 FE	LAN Lite	3				
IE-2000-16TC-G-E	20	16 FE	2 GE	2 FE	LAN Base	1, 2, 4	Yes	U*		
IE-2000-16TC-G-X	20	16 FE	2 GE	2 FE	LAN Base	1, 2, 4	Yes	U*		Yes
IE-2000-8TC-G-N	10	8 FE	2 GE		Enhanced LAN Base	1, 2	Yes	Yes		
IE-2000-16TC-G-N	20	16 FE	2 GE	2FE	Enhanced LAN Base	1, 2	Yes	Yes		
IE-2000-16PTC-G-L	18	16 FE	2 GE		LAN Lite	3			Yes	
IE-2000-16PTC-G-E	18	16 FE	2 GE		LAN Base	1, 2	Yes	U	Yes	
IE-2000-16PTC-G-NX	18	16 FE	2 GE		Enhanced LAN Base	1, 2	Yes	Yes	Yes	Yes

"Type of possible upgrade" legend:

1: LAN Base to IP Lite Cisco IOS Software Upgrade

2: Enhanced LAN Base to IP Lite Cisco IOS Software Upgrade

3: LAN Lite to LAN Base Cisco IOS Software Upgrade

4: LAN Base to Enhanced LAN Base Cisco IOS Software Upgrade and License Upgrade

U: Upgradable to L2NAT via Enhanced Lan Base or IP Lite license

Table 2.   Accessories and license upgrade PIDs

Product number	Description
SD-IE-1GB=	1 GB Ruggedized SD memory card (must be ordered, not included by default)
STK-RACK-DINRAIL=	19 in. DIN Rail mount kit
IE-LICENSE-SPARE	Spare license for software upgrade (L2 to L3 features, MRP ring, etc)
L-IE2000-L-B=	IE2000 LAN Lite to LAN Base e-license
L-IE2000-B-E=	IE2000 LAN Base to Enhanced LAN Base e-license
LIC-IE2000-IP-L=	IE2000 LAN Base or Enhanced LAN Base to IPLite e-license
LIC-IE2000-L-IP=	IE2000 LAN Lite to IPLite e-license
LIC-MRP-MANAGER=	MRP Ring Manager license
LIC-MRP-Client=	MRP Ring Client license
Wallmount-IE2k-04=	Wall mount kit accessory for IE2000 4-ports downlink PID
Wallmount-IE2k-08=	Wall mount kit accessory for IE2000 8-ports downlink PID
Wallmount-IE2k-16=	Wall mount kit accessory for IE2000 16-ports downlink PID

Table 3.   Product specifications

Description	Specification
Hardware	• 256 MB DRAM with ECC memory • IEEE 1588v2 FPGA • 64 MB on-board flash memory • 1GB removable SD flash memory card (optional) • Mini-USB connector
Alarm	• Alarm I/O: Two alarm inputs to detect dry contact open or close; one alarm output relay
Power consumption	• 4-port downlink models: 9.5-15 W • 8-port downlink models: 12.5-20 W • 16-port downlink models: 21-30 W • 4-port PoE/PoE+ models: 21-30 W (16-port base switch) and 4 PoE/PoE+ power requirement
Connectors and cabling	• 100BASE-FX MMF (2 km), -LX SMF (10 km) -ZX SMF (100 km), BX10 SMF (10 km) SFP and CWDM SFP-based ports: LC fiber connectors • 10/100/1000BASE-T ports: RJ-45 connectors, 4-pair Category 5 UTP cabling

Description	Specification
Dimensions (H x W x D) including DIN rail	• IE-2000 6 ports (copper downlinks) chassis: 5.1"H x 2.95"W x 4.51"D in (130mm H x 74.9mm W x 115mm D) • IE-2000 6 ports (SFP downlinks) chassis: 5.1"H x 3.15"W x 4.51"D in (130mm H x 80mm W x 115mm D) • IE-2000 10 ports short chassis: 5.1" H x 3.6" W x 4.51" D (130mm H x 91.4mm W x 115mm D) • IE-2000 10 ports long chassis: 5.1" H x 3.6" W x 5.26" D (130mm H x 91.4mm W x 134mm D) • IE-2000 18-20 ports chassis: 5.1" H x 5.0" W x 5.26" D (130mm H x 127mm W x 134mm D)
Weight	• IE-2000 6 ports chassis: 2.45 lb (1.11 kg) • IE-2000 6 ports (SFP): 2.69 lb (1.22 kg) • IE-2000 10 ports short chassis: 2.75 lb (1.25 kg) • IE-2000 10 ports long chassis: 3.45 lb (1.56 kg) • IE-2000 18-20 ports chassis: 4.35 lb (1.97 kg)

Table 4.   IE 2000 Series power supplies

Product number	Wattage	Rated nominal input operating range	PoE/PoE+ support[1]	More details
PWR-IE50W-AC=	50W	AC 100-240V/1.25A 50-60Hz or DC 125-250V/1.25A	No	Click here for more details on these DIN Rail power supplies[3]
PWR-IE50W-AC-L=[2]	50W	AC 100-240V/1.2A 50-60Hz	No	
PWR-IE65W-PC-AC=	65W	AC 100-240V/1.4A 50-60Hz or DC 125-250V/1.0A	Yes	
PWR-IE65W-PC-DC=	65W	DC 24-48VDC/4.5A	Yes	
PWR-IE170W-PC- AC=	170W	AC 100-240V/2.3A 50-60Hz or DC 125-250V/2.1A	Yes	
PWR-IE170W-PC- DC=	170W	DC 12-54VDC/2.3A	Yes	
PWR-IE240W-PCAC-L=[2]	240W	AC 100-240V/3.5A 50-60Hz	Yes	
PWR-IE480W-PCAC-L=[2]	480W	AC 100-240V/6.0A 50-60Hz	Yes	

[1] The entire power budget for the switch and PoE ports needs to stay within the power supply.

[2] The power supplies are not certified for smart grid and hazardous locations. These power supplies are IP20 rated.

[3] Power Supplies Datasheet Link: https://www.cisco.com/c/en/us/products/collateral/switches/industrial-ethernet-switches/datasheet-c78-742180.html

Table 5.   Cisco IE 2000 software features

LAN Lite license	Baseline features
Layer 2 switching	IEEE 802.1, 802.3, 802.3at, 802.3af standard (see Table 8), VTPv2, NTP, UDLD, CDP, LLDP, Unicast MAC filter, Resilient Ethernet Protocol (REP), Media Redundancy Protocol (MRP) Ring (IEC 62439-2)

LAN Lite license	Baseline features
Security	SCP, SSH, SNMPv3, TACACS+, RADIUS Server/Client, MAC Address Notification, BPDU Guard, SPAN session
Multicast	IGMPv1, v2, v3 Snooping, IGMP filtering, IGMP Querier
Management	Fast Boot, Express Setup, Web Device Manager, CNA, Cisco Prime, LMS, MIB, SmartPort, SNMP, syslog
Industrial Ethernet	EtherNet/IP, Profinet v2

LAN Base license	Additional features
Layer 2 switching	VTPv3, EtherChannel, Voice VLAN, Flexlink
Security	IPv4 Port-Security, DHCP Snooping, Dynamic ARP Inspection, IP Source Guard, 802.1x, Guest VLAN. MAC Authentication Bypass, 802.1x Multi-Domain Authentication, Storm Control, Trust Boundary, Access-List (ACL)
Quality of service	IPv4 Ingress Policing, Rate-Limit, Egress Queuing/Shaping, AutoQoS, PROFINET QoS
Management	Port-Based DHCP, Storm Control - Unicast, Multicast, Broadcast, SPAN Sessions, RSPAN, DHCP Server, Customized TCAM/SDM Size Configuration, Embedded Event Manager (EEM)
Industrial Ethernet	IEEE 1588 PTPv2
IPv4 routing	IPv4 static routing
IPv6 routing	IPv6 host support, HTTP over IPv6, SNMP over IPv6

Enhanced LAN Base	Additional features
Industrial management	Layer 2 switching with 1:1 static Network Address Translation (NAT)

IP Lite license	Additional features
IPv4 routing	RIP, OSPF, EIGRP, VRF Lite, PIM for L3 multicast routing including sparse (SM) and dense (DM) mode.
IPv6 Routing	IPv6 Static routing, OSPFv3
Security	FIPS 140-2
Embedded Event Manager	EEM feature enabled with IP Lite license

Cisco DNA Essentials	Additional features
Cisco DNA Center	Discovery, topology, inventory, software image management
Visibility	Cisco DNA assurance, Device 360
Day-zero network bring-up automation	Cisco Network Plug-and-Play application

Table 6.   Cisco IE 2000 Cisco DNA license PIDs

PID	Description
IE2000-DNA-E-L	Cisco DNA Essentials license (up to 12 ports)
IE2000-DNA-E-L-3Y	Cisco DNA Essentials 3 year term license (up to 12 ports) option
IE2000-DNA-E-L-5Y	Cisco DNA Essentials 5 year term license (up to 12 ports) option
IE2000-DNA-E-M	Cisco DNA Essentials license (up to 24 ports)
IE2000-DNA-E-M-3Y	Cisco DNA Essentials 3 year term license (up to 24 ports) option
IE2000-DNA-E-M-5Y	Cisco DNA Essentials 5 year term license (up to 24 ports) option

Table 7.   Compliance specifications

Description	Specification
Safety certifications	• UL/CSA 60950-1 • EN 60950-1 • CB to IEC 60950-1 (with country deviations) • NOM to NOM-019-SCF1 (through partners and distributors) • CE Marking
Hazard location	• ANSI/ISA 12.12.01 (Class1, Div2 A-D)[*] • EN 60079-0, -15 ATEX Certificate (Class 1, Zone2 A-D)[*] [*] Cabinet enclosure required
EMC emissions and immunity compliance	• FCC 47 CFR Part 15 Class A • EN 55022A Class A • VCCI Class A • RoHS compliance • AS/NZS CISPR 22 Class A, AS/NZS CISPR 24 • CISPR11 Class A, CISPR22 Class A • ICES 003 Class A • KCC -Korea • CE Marking • C-Tick (Australia) • Russia certification • Brazil certification • IEC/EN/EN61000-4-2 (Electro Static Discharge), 15kV air/8kV contact • IEC/EN 61000-4-3 (Radiated Immunity, 10 and 20 V/m)

Description	Specification
	• IEC/EN 61000-4-4 (Fast Transients - 4kV power line, 4kV data line) • IEC/EN 61000-4-5 (Surge 2 kV/1 kV) • IEC/EN 61000-4-6 (Conducted Immunity, 10 V/emf) • IEC/EN 61000-4-8 (Power Frequency Magnetic Field Immunity) • IEC/EN 61000-4-9 (Pulse Magnetic Field Immunity) • IEC/EN 61000-4-10 (Oscillatory Magnetic Field Immunity) • IEC/EN 61000-4-11 (AC power Voltage Immunity) • IEC/EN 61000-4-29 (Voltage Dips Immunity) • IEC/EN 61000-6-1 (Immunity for Light Industrial Environments) • IEC/EN 61000-6-2 (Immunity for Industrial Environments) • IEC/EN 61000-6-4 Class A • EN 61326
Shock and vibration	• IEC 60068-2-27 (Operational Shock: 30G 11ms, half sine) • IEC 60068-2-27 (Non-Operational Shock 55-70G, trapezoidal) • IEC 60068-2-6, IEC 60068-2-64, EN 61373 (Operational Vibration) • IEC 60068-2-6, IEC 60068-2-64, EN 61373 (Non-operational Vibration)
Industry standards	• UL508 • CSA C22.2 No. 142 • EN 61131-2 (EMC/EMI, environmental, mechanical) • Protective coating (specific models only) • Marine DnV • Substation KEMA (IEEE 1613, IEC 61850-3) • Railway EN 50155 (EMI/EMC, environmental, mechanical) • EN50121-3-2 • EN50121-4 • NEMA TS-2 (EMC, environmental, mechanical) • ABB Industrial IT certification • IP30 • ODVA Industrial Ethernet/IP support • PROFINETv2.3 support
Corrosive testing	• ISO-12944-6 • IEC-60068-2-60
Humidity	• IEC 60068-2-52 (salt fog mist, test Kb) marine environments • IEC 60068 -2-3 • IEC 60068-2-30 • Relative humidity: 5% to 95% non-condensing
Operating temperature	• -40C to +70C (vented enclosure - 40 LFM Air Flow) • -40C to +60C (sealed enclosure - 0 LFM Air Flow) • -34C to +75C (fan or blower-equipped enclosure – 200 LFM Air Flow) • -40C to +85C (IEC 60068-2-2 Environmental Type Testing - 16 hours) • Operational altitude: Up to 15,000 ft

Description	Specification
Storage temperature	• -40 C to +85 C (storage temperature) • IEC 60068-2-14 • Storage altitude: Up to 15,000 ft
Mean Time Between Failures (MTBF)	• Mean time between failure: 374,052 hours (42.7 years)
Warranty	• Five-year limited warranty on all IE-2000 HW PIDs and all IE Power Supplies defined in table 4 above. See link below for details on warranty

Table 8. Management and standards

Description	Specification	Specification
IEEE standards	• IEEE 802.1D MAC bridges, STP • IEEE 802.1p Layer 2 COS prioritization • IEEE 802.1q VLAN • IEEE 802.1s Multiple Spanning-Trees • IEEE 802.1w Rapid Spanning-Tree • IEEE 802.1x Port Access Authentication • IEEE 802.1AB LLDP • IEEE 802.3ad Link Aggregation (LACP) • IEEE 802.3af Power over Ethernet provides up to 15.4W DC power to each end device • IEEE 802.3at Power over Ethernet provides up to 25.5W DC power to each end device	• IEEE 802.3af Power over Ethernet • IEEE 802.3at Power over Ethernet Plus • IEEE 802.3ah 100BASE-X SMF/MMF only • IEEE 802.3x full duplex on 10Base-T • IEEE 802.3 10BASE-T specification • IEEE 802.3u 100BASE-TX specification • IEEE 802.3ab 1000BASE-T specification • IEEE 802.3z 1000BASE-X specification • IEEE 1588v2 PTP Precision Time Protocol
RFC compliance	• RFC 768: UDP • RFC 783: TFTP • RFC 791: IPv4 protocol • RFC 792: ICMP • RFC 793: TCP • RFC 826: ARP • RFC 854: Telnet • RFC 951: BootP • RFC 959: FTP • RFC 1157: SNMPv1 • RFC 1901,1902-1907 SNMPv2 • RFC 2273-2275: SNMPv3 • RFC 2571: SNMP Management • RFC 1166: IP Addresses • RFC 1256: ICMP Router Discovery	• RFC 1305: NTP • RFC 1492: TACACS+ • RFC 1493: Bridge MIB Objects • RFC 1534 DHCP and BootP interoperation • RFC 1542: Bootstrap Protocol • RFC 1643: Ethernet Interface MIB • RFC 1757: RMON • RFC 2068: HTTP • RFC 2131, 2132: DHCP • RFC 2236: IGMP v2 • RFC 3376: IGMP v3 • RFC 2474: DiffServ Precedence • RFC 3046: DHCP Relay Agent Information Option • RFC 3580: 802.1x RADIUS • RFC 4250-4252 SSH Protocol
Simple network management protocol (SNMP) MIB objects	• BRIDGE-MIB • CALISTA-DPA-MIB • CISCO-ACCESS-ENVMON-MIB • CISCO-ADMISSION-POLICY-MIB • CISCO-AUTH-FRAMEWORK-MIB • CISCO-BRIDGE-EXT-MIB • CISCO-BULK-FILE-MIB	• CISCO-SNMP-TARGET-EXT-MIB • CISCO-STACK-MIB • CISCO-STACKMAKER-MIB • CISCO-STP-EXTENSIONS-MIB • CISCO-SYSLOG-MIB • CISCO-TCP-MIB • CISCO-UDLDP-MIB

Description	Specification	Specification
	• CISCO-CABLE-DIAG-MIB	• CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB
	• CISCO-CALLHOME-MIB	• CISCO-VLAN-MEMBERSHIP-MIB
	• CISCO-CAR-MIB	• CISCO-VTP-MIB
	• CISCO-CDP-MIB	• ENTITY-MIB
	• CISCO-CIRCUIT-INTERFACE-MIB	• ETHERLIKE-MIB
	• CISCO-CLUSTER-MIB	• HC-RMON-MIB
	• CISCO-CONFIG-COPY-MIB	• IEEE8021-PAE-MIB
	• CISCO-CONFIG-MAN-MIB	• IEEE8023-LAG-MIB
	• CISCO-DATA-COLLECTION-MIB	• IF-MIB
	• CISCO-DHCP-SNOOPING-MIB	• IP-FORWARD-MIB
	• CISCO-ENTITY-ALARM-MIB	• IP-MIB
	• CISCO-ENTITY-VENDORTYPE-OID-MIB	• LLDP-EXT-MED-MIB
	• CISCO-ENVMON-MIB	• LLDP-MIB
	• CISCO-ERR-DISABLE-MIB	• NETRANGER
	• CISCO-FLASH-MIB	• NOTIFICATION-LOG-MIB
	• CISCO-FTP-CLIENT-MIB	• OLD-CISCO-CHASSIS-MIB
	• CISCO-IF-EXTENSION-MIB	• OLD-CISCO-CPU-MIB
	• CISCO-IGMP-FILTER-MIB	• OLD-CISCO-FLASH-MIB
	• CISCO-IMAGE-MIB	• OLD-CISCO-INTERFACES-MIB
	• CISCO-IP-STAT-MIB	• OLD-CISCO-IP-MIB
	• CISCO-LAG-MIB	• OLD-CISCO-MEMORY-MIB
	• CISCO-LICENSE-MGMT-MIB	• OLD-CISCO-SYS-MIB<
	• CISCO-MAC-AUTH-BYPASS-MIB	• OLD-CISCO-SYSTEM-MIB
	• CISCO-MAC-NOTIFICATION-MIB	• OLD-CISCO-TCP-MIB
	• CISCO-MEMORY-POOL-MIB	• OLD-CISCO-TS-MIB
	• CISCO-PAE-MIB	• RMON-MIB
	• CISCO-PAGP-MIB	• RMON2-MIB
	• CISCO-PING-MIB	• SMON-MIB
	• CISCO-PORT-QOS-MIB	• SNMP-COMMUNITY-MIB
	• CISCO-PORT-SECURITY-MIB	• SNMP-FRAMEWORK-MIB
	• CISCO-PORT-STORM-CONTROL-MIB	• SNMP-MPD-MIB
	• CISCO-PRIVATE-VLAN-MIB	• SNMP-NOTIFICATION-MIB
	• CISCO-PROCESS-MIB	• SNMP-PROXY-MIB
	• CISCO-PRODUCTS-MIB	• SNMP-TARGET-MIB
	• CISCO-RESILIENT-ETHERNET-PROTOCOL-MIB	• SNMP-USM-MIB
	• CISCO-RTTMON-ICMP-MIB	• SNMP-VIEW-BASED-ACM-MIB
	• CISCO-RTTMON-IP-EXT-MIB	• SNMPv2-MIB
	• CISCO-RTTMON-MIB	• TCP-MIB
	• CISCO-RTTMON-RTP-MIB	• UDP-MIB
	• CISCO-MRP-MIB	

Table 9. SFP transceivers

Part number	Specification	SFP type	Max distance	Cable type	Temp range[*]	DOM support
GLC-FE-100FX-RGD=	100BASE-FX	FE	2km	MMF	IND	Yes
GLC-FE-100LX-RGD	100BASE-LX10	FE	10km	SMF	IND	Yes
GLC-FE-T-I=	100BASE-T	FE	100m	Copper	IND	NA
GLC-FE-100FX=	100BASE-FX	FE	2km	MMF	COM	No
GLC-FE-100LX=	100BASE-LX10	FE	10km	SMF	COM	No
GLC-FE-100EX=	100BASE-EX	FE	40km	SMF	COM	No
GLC-FE-100ZX=	100BASE-ZX	FE	80km	SMF	COM	No
GLC-FE-100BX-D=	100BASE-BX10	FE	10km	SMF	COM	No
GLC-FE-100BX-U=	100BASE-BX10	FE	10km	SMF	COM	Yes
GLC-SX-MM-RGD=	1000BASE-SX	GE	550m	MMF	IND	Yes
GLC-LX-SM-RGD=	1000BASE-LX/LH	GE	550m/10km	MMF/SMF	IND	Yes
GLC-ZX-SM-RGD=	1000BASE-ZX	GE	70km	SMF	IND	Yes
GLC-BX40-U-I=	1000BASE-BX40	GE	40km	SMF	IND	Yes
GLC-BX40-D-I=	1000BASE-BX40	GE	40km	SMF	IND	Yes
GLC-BX40-DA-I=	1000BASE-BX40	GE	40km	SMF	IND	Yes
GLC-BX80-U-I=	1000BASE-BX80	GE	80km	SMF	IND	Yes
GLC-BX80-D-I=	1000BASE-BX80	GE	80km	SMF	IND	Yes
GLC-SX-MMD=	1000BASE-SX	GE	550m	MMF	EXT	Yes
GLC-LH-SMD=	1000BASE-LX/LH	GE	550m/10km	MMF/SMF	EXT	Yes
GLC-EX-SMD=	1000BASE-EX	GE	40km	SMF	EXT	Yes
GLC-ZX-SMD=	1000BASE-ZX	GE	70km	SMF	EXT	Yes
GLC-BX-D=	1000BASE-BX10	GE	10km	SMF	COM	Yes
GLC-BX-U=	1000BASE-BX10	GE	10km	SMF	COM	Yes
CWDM-SFP-xxxx= (8 freq)	CWDM 1000BASE-X	GE		SMF	COM	Yes
DWDM-SFP-xxxx= (40 freq)	DWDM 1000BASE-X	GE		SMF	COM	Yes

Part number	Specification	SFP type	Max distance	Cable type	Temp range*	DOM support
SFP-GE-S=	1000BASE-SX	GE	550m	MMF	EXT	Yes
SFP-GE-L=	1000BASE-LX/LH	GE	550m/10km	MMF/SMF	EXT	Yes
SFP-GE-Z=	1000BASE-ZX	GE	70km	SMF	EXT	Yes
GLC-SX-MM=	1000BASE-SX	GE	550m	MMF	COM	No
GLC-LH-SM=	1000BASE-LX/LH	GE	550m/10km	MMF/SMF	COM	No
GLC-ZX-SM=	1000BASE-ZX	GE	70km	SMF	COM	Yes
GLC-T=	1000BASE-T	GE	100m	Copper	EXT	NA
GLC-TE=	1000BASE-T	GE	100m	Copper	EXT	NA
GLC-T-RGD=	1000BASE-T	GE	100m	Copper	IND	NA

Note: For DOM support and for first software release supporting SFP, refer to https://www.cisco.com/en/US/products/hw/modules/ps5455/products_device_support_tables_list.html
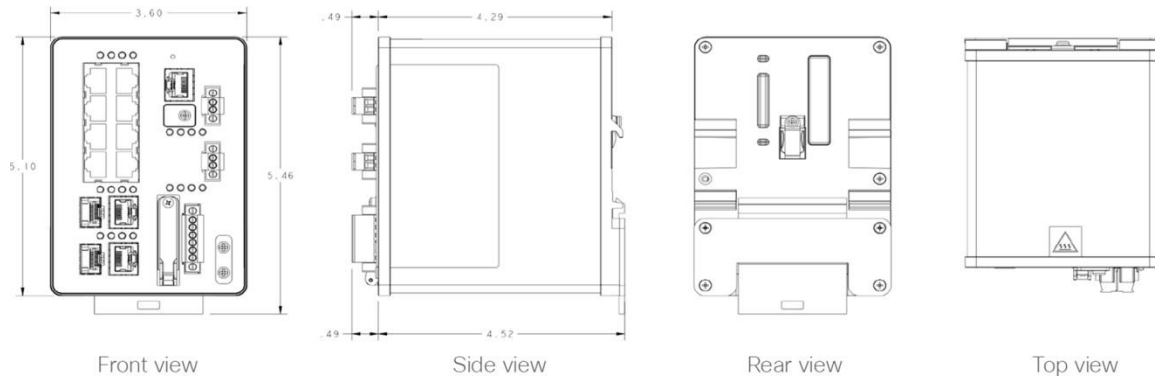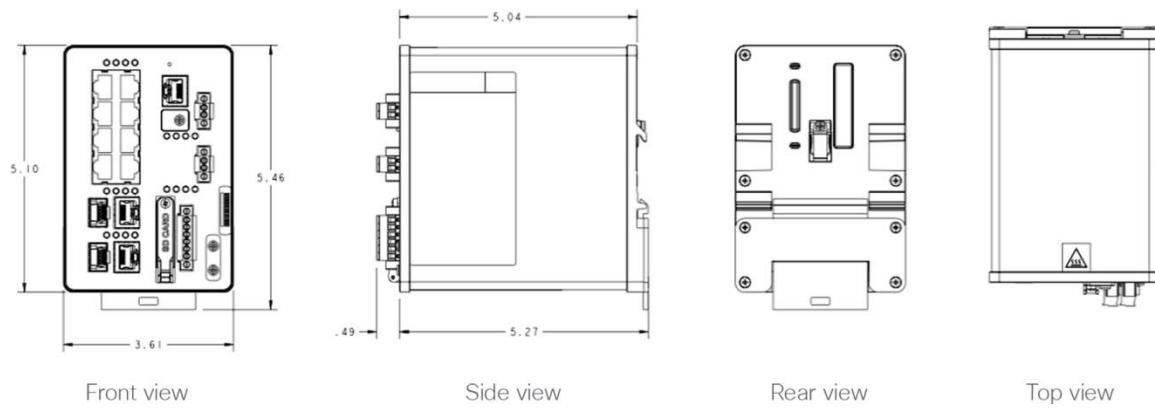
MMF = multimode fiber

SMF = Single-mode fiber

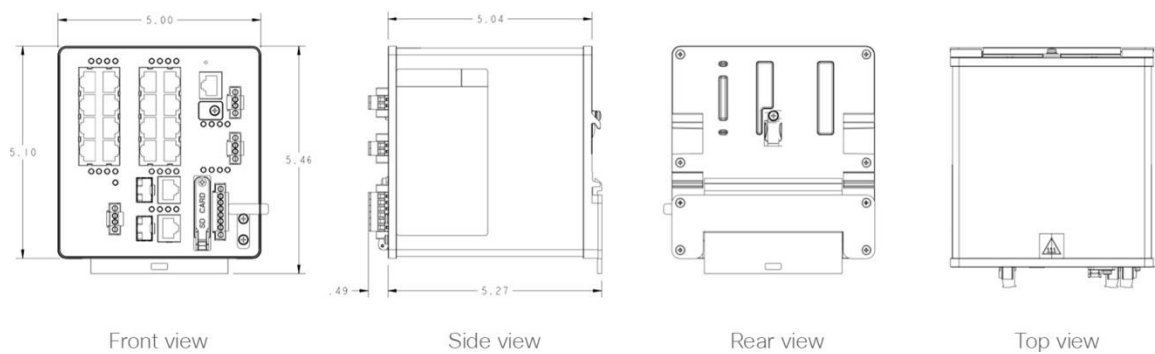Figures 2–5 show the mechanical dimensions of the various IE 2000 models.

Front view   Side view   Rear view   Top view

Figure 2.
IE2000 4 ports

Front view Side view Rear view Top view
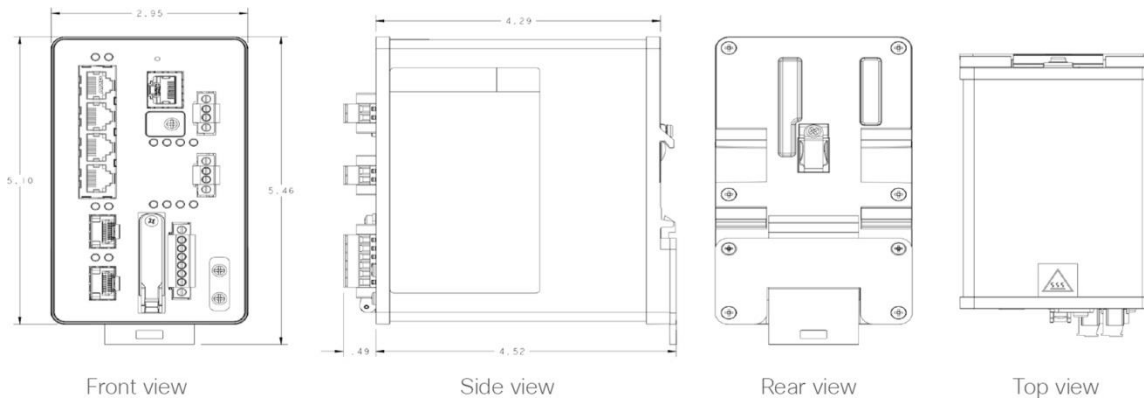
Figure 3.
IE2000 8 ports (–L, –B)

Front view Side view Rear view Top view

Figure 4.
IE2000 8 ports (–E, –N)

Front view Side view Rear view Top view

Figure 5.
IE2000 16 ports

Ordering information

Part #	Description
IE-2000-4TS-L	IE2000 with 4 FE Copper ports and 2 FE SFP ports (Lan Lite)
IE-2000-4TS-B	IE2000 with 4 FE Copper ports and 2 FE SFP ports (Lan Base)
IE-2000-4T-L	IE2000 Switch with 6 FE Copper ports (Lan Lite License)
IE-2000-4T-B	IE2000 Switch with 6 FE Copper ports (Lan Base License)
IE-2000-4TS-G-L	IE2000 with 4 FE Copper ports and 2 GE SFP ports (Lan Lite)
IE-2000-4TS-G-B	IE2000 with 4 FE Copper ports and 2 GE SFP ports (Lan Base)
IE-2000-4T-G-L	IE2000 with 4 FE Copper ports and 2 GE Copper ports (Lan Lite)
IE-2000-4T-G-B	IE2000 with 4 FE Copper ports and 2 GE Copper ports (Lan Base)
IE-2000-4S-TS-G-L	IE2000 with 4 FE SFP ports and 2 GE SFP ports (Lan Lite)
IE-2000-4S-TS-G-B	IE2000 with 4 FE SFP ports and 2 GE SFP ports (Lan Base)
IE-2000-8TC-L	IE2000 with 8FE Copper ports and 2FE Combo (Lan Lite)
IE-2000-8TC-B	IE2000 with 8FE Copper ports and 2FE uplinks (Lan Base)
IE-2000-8TC-G-L	IE2000 with 8FE Copper ports and 2GE Combo (Lan Lite)
IE-2000-8TC-G-B	IE2000 with 8FE Copper ports and 2GE uplinks (Lan Base)
IE-2000-8TC-G-E	IE2000 with 8FE Copper ports and 2GE Combo (Lan Base) – 1588
IE-2000-16TC-L	IE2000 with 16FE Copper, 2FE SFP/T and 2FE SFP (Lan Lite)
IE-2000-16TC-B	IE2000 with 16FE Copper, 2FE SFP/T and 2FE uplinks (Lan Base)
IE-2000-16TC-G-L	IE2000 with 16FE Copper, 2GE SFP/T and 2FE SFP (Lan Lite)
IE-2000-16TC-G-E	IE2000 with 16FE Copper, 2GE SFP/T and 2FE SFP (Lan Base)
IE-2000-16TC-G-X	IE2000 with 16FE Copper, 2GE SFP/T and 2FE SFP (Lan Base) – Conformal Coating
IE-2000-8TC-G-N	IE2000 with 8FE Copper ports and 2GE Combo (Enhanced Lan Base)
IE-2000-16TC-G-N	IE2000 with 16FE Copper, 2GE SFP/T and 2FE SFP (Enhanced Lan Base)
IE-2000-16PTC-G-L	IE2000 with 16FE Copper (4 PoE+) and 2GE uplinks (Lan Lite)
IE-2000-16PTC-G-E	IE2000 with 16FE Copper (4 PoE+) and 2GE uplinks (Lan Base)
IE-2000-16PTC-G- NX	IE2000 with 16FE Copper (4 PoE+) and 2GE uplinks (Enhanced Lan Base)

Warranty information

Warranty information is available at https://www.cisco-servicefinder.com/warrantyfinder.aspx.

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Cisco is committed to reducing your Total Cost of Ownership (TCO). We offer a portfolio of technical support services to help ensure that products operate efficiently, remain highly available, and benefit from the most up-to- date system software. The services and support programs described in Table 10 are available as part of the Cisco Desktop Switching Service and Support solution and are available directly from Cisco and through resellers.

Table 10.   Cisco services and support programs

Advanced services		
• Cisco Total Implementation Solutions (TIS), available directly from Cisco • Cisco Packaged TIS, available through resellers • Cisco SMARTnet® and SMARTnet Onsite support, available directly from Cisco • Cisco Packaged SMARTnet support program, available through resellers • Cisco SMB Support Assistant	• Project management • Site survey, configuration, and deployment • Installation, text, and cutover • Training • Major moves, adds, and changes • Design review and product staging • 24-hour access to software updates • Web access to technical repositories • Telephone support through the Cisco Technical Assistance Center (TAC) • Advance replacement of hardware parts	• Supplements existing staff • Helps ensure that functions meet needs • Mitigates risk • Helps enable proactive or expedited issue resolution • Lowers TCO by taking advantage of Cisco expertise and knowledge • Reduces network downtime

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- Australia: 612 9935 4107
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- Cisco Industrial Ethernet 2000 (IE 2000) Series Switches: https://www.cisco.com/en/US/partner/products/ps12451/index.html.

Document history

New or revised topic	Described in	Date
Added ordering information table and spelled out a few acronyms	Entire Datasheet	Dec. 5, 2019