Cisco Industrial Ethernet 5000 Series Switches

Developed specifically to withstand the harshest industrial environments, these switches offer the most flexible and scalable industrial Ethernet platform that grows with your network.

Product overview

The Cisco® Industrial Ethernet (IE) 5000 Series Switches with four 10 Gigabit or four 1 Gigabit Ethernet uplinks and 24 Gigabit Ethernet downlinks is a rack mount, ruggedized switch that provides Layer 2 and Layer 3 line rate aggregation and copper Power over Ethernet (PoE) connectivity in the harshest of industrial environments.

The IE 5000 Series uses superior high-bandwidth hardware switching and proven Cisco IOS® Software. The IE 5000 is highly secure and scalable for access and aggregation layer deployments. It also provides Cisco stackable technologies for advanced network reliability. The switch is built to withstand extreme environments while adhering to overall IT network design, compliance, and performance requirements. The IE5000 has built-in SW image verification to ensure authenticity of the Cisco Software.

The IE 5000 Series can be used to easily and securely extend the enterprise network to harsh environments with a software-defined access extension for the Internet of Things (IoT) enabling connectivity in outdoor areas, warehouses, distribution centers, roadways, etc., using powerful enterprise-grade intent-based network management platform such as Cisco DNA™ Center.

The IE 5000 Series is ideal for industrial Ethernet applications where hardened products are required. This includes utility industries, manufacturing, energy and process control, Intelligent Transportation Systems (ITS), oil and gas field sites, city surveillance programs, and mining. With improved overall performance, greater bandwidth with available 10 Gigabit Ethernet interfaces, a richer feature set, and enhanced hardware, the Cisco IE 5000 Series Switches complement the current Industrial Ethernet portfolio of products. This portfolio includes Cisco industrial Ethernet switches, such as the Cisco IE 2000, IE 3000, IE 3010, IE 4000, and IE 4010 Series Switches, as well as utility- focused products, such as the Cisco IE 2000U Industrial Ethernet switches and Cisco 2500 Series Connected Grid Switches.

Through a user-friendly web device manager, the IE 5000 provides easy out-of-the-box configuration and simplified operational manageability to deliver advanced security, data, video, and voice services over industrial networks.

Features and benefits

Table 1 lists the features and benefits of Cisco IE 5000 Series Switches.

Table 1. Features and Benefits of Cisco IE 5000 Series Switches

Feature	Benefit
Robust industrial design	• Built for harsh environment and temperature range (-40° to 75°C). • Every IE-5000-12S12P-10G is conformal coated. • Hardened for vibration, shock, surge, and electrical noise immunity • Four 10 Gigabit or four 1 Gigabit Ethernet uplink ports provide multiple resilient design options • Complies with multi-industry specifications for industrial automation, ITS, and electrical substation environments. • Improves uptime, performance, and safety of industrial systems and equipment. • Compact 1 rack unit design with dual LED feature allowing easy monitoring and troubleshooting even when reverse mounting based on cabling requirements. • Fanless, convection cooled with no moving parts for extended durability. • IEEE 1588v2 PTP (both power profile and default profile are supported). • Alarm I/O for monitoring and signaling to external equipment.
User-friendly GUI device manager	• Allows easy configuration and monitoring with a web based Device Manager. • Eliminates the need for more complex terminal emulation programs. • Reduces the cost of deployment.
SwapDrive: "zero-config" replacement	• True zero-configuration replacement for easy middle-of-the-night or middle-of-nowhere failure recovery. • Simple switch replacement in case of a failure. • No networking expertise required. • Helps ensure fast recovery.
High-density industrial Power over Ethernet (PoE)	• Support for up to 12 PoE or PoE+ ports. • Controls costs by limiting wiring, distribution panels, and circuit breakers. • Reduces equipment needs, thus requiring less space and reducing heat dissipation. • Enables ready-to-use PoE devices, such as IP phones, cameras, and wireless access points. • Supports maximum High-Definition (HD) camera deployments. • Power budget up to 165W for PoE or PoE+ with one power supply and up to 360W with two power supplies.
High-performance Ethernet switch with 4x10 GE or 4x1GE uplinks and 24x1 GE downlinks	• Connects new wireless access point (802.11n and 802.11ac). • Enables new HD IP cameras. • Provide high-speed, low-latency connectivity for PLCs, controllers and associated I/O devices. • Allows Supervisory Control and Data Acquisition (SCADA) connectivity. • Provides introduction of new bandwidth-hungry applications in the industrial space. • Line-rate, low-latency forwarding with advanced hardware assisted features (such as NAT, IEEE1588v2). • Supports very-delay-sensitive applications and time-sensitive networks. • Delivers multiple rings and redundant ring topology for new network configurations. • Extends geographical scalability where longer distance connectivity is required.

Your ruggedized choice for industrial environments

The Cisco Industrial Ethernet 5000 Series Switches offer:

- Bandwidth and capacity to grow with your networking needs: High-performance non-blocking switch capacity with up to 24 Gigabit Ethernet downlink ports and four 10 Gigabit or four 1 Gigabit Ethernet uplink ports per switch
- SFP+ heater to allow standard SFP+ optics to operate to -40C (10GE SKU only)
- Cisco IOS Software features for smooth IT integration and policy consistency

- Robust resiliency enabled by features, such as dual-ring design through four 10 Gigabit Ethernet uplink ports, Resilient Ethernet Protocol (REP), Parallel Redundancy Protocol (PRP), PROFINET– Media Redundancy Protocol (MRP) ring, High Availability Seamless Redundancy (HSR) ring, EtherChannel, Flex Links, redundant power input, and dying gasp
- Oven-controlled crystal oscillator (OCXO) to provide superior frequency stability needed for precise synchronization applications
- Simplified software upgrade path with universal images
- Integrated hardware support for features such as GPS receiver, IRIG, TOD and TSN that can be enabled with future software changes to add value and longevity to the IE 5000 platform
- Cisco DNA Center management and support for software-defined access extension for IoT

Cisco ONE Software

Cisco ONE Software offers a simplified consumption model, centered on common customer scenarios in the industrial automation and extended enterprise environments. Cisco ONE Software and services provide customers with four primary benefits:

- Software suites that address typical customer use scenarios at an attractive price
- Investment protection for their software purchase through software services-enabled license portability
- Access to ongoing innovation and new technology with Cisco Software Support Service (SWSS)
- Flexible licensing models to smoothly distribute customers' software spending over time

Figure 1 shows switch models, Table 2 shows all the available 5000 models, Table 3 lists the power supplies and Table 4 shows the available power budget for PoE/PoE+ for Cisco IE 4010 Series Switches

Series Switches.

Figure 1. IE 5000 switch

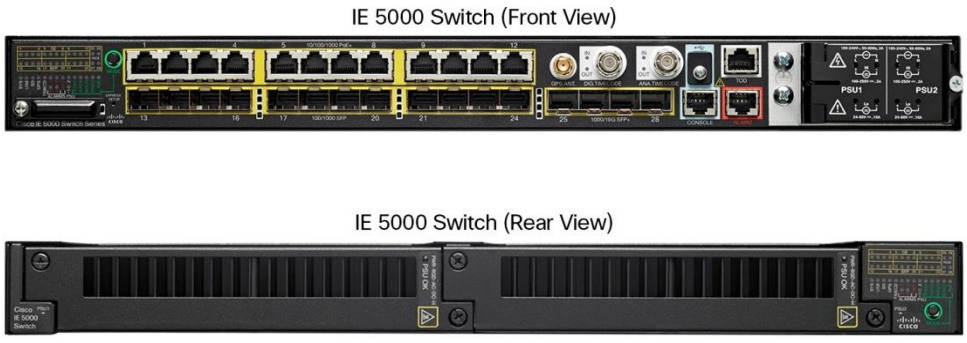

Table 2. Cisco Industrial Ethernet 5000 Series models

Product number	Total ports	Uplinks	SFP fiber ports (S)	Copper 10/100/1000 PoE/PoE+ ports	Default software
IE-5000-12S12P-10G	28	4 SFP/SFP+ (1G/10G) [1]	12 (FE/GE)	12 (10/100/1000M)	LAN Base[2]
IE-5000-16S12P	28	4 SFP (1G)	12 (FE/GE)	12 (10/100/1000M)	LAN Base[2]

[1] Uplink ports can run at 1 Gigabit Ethernet or 10 Gigabit Ethernet mode depending on the SFP or SFP+ inserted.

[2] Can be upgraded to IP Services license with the PID in Table 9.

Table 3. Power supplies for Cisco IE 5000 Series Switches

Product number	Wattage	Rated nominal input operating range	Supported input voltage operating range	PoE/PoE+ support	Use case scenario
PWR-RGD-AC-DC-H	150W	AC 100-240V/2.0A 50-60Hz or DC 100-250V/2.0A	AC 85-264V or DC 88-300V	Yes	High voltage AC or DC power source, for hazardous locations[1,2,3] PoE power application
PWR-RGD-LOW-DC-H	150W	DC 24-60V/10A	DC 18-75V	Yes	Low voltage DC power source, for hazardous locations[1, 2,3] PoE power application
PWR-RGD-AC-DC-250	250W	AC 100-240V 3.3A 50-60Hz Or DC 100-250V 3.3A.	AC 85-264V Or DC 88-300V	Yes	High voltage AC or DC power source, for hazardous locations[2,3,4] PoE power application

Table 4. Available power budget for PoE/PoE+ with different power supply wattage

Product number	150W	150W (dual)	250W	250W + 150W	250W (dual)
IE-5000-12S12P-10G	65	185	165	270	360
IE-5000-16S12P	65	185	165	270	360

Product specifications

Table 5 lists specifications, Table 6 lists information about switch performance and scalability, Tables 7 and 8 list important software features, and Table 9 provides details on software licenses. Tables 10 lists Cisco ONE™ licenses and Tables 11-13 list the DNA Essentials and Advantage license PIDs available for order. Table 14 lists compliance specifications, and Table 15 lists information about management and standards and Table 16 lists the supported SFPs on Cisco IE 5000 Series Switches

Table 5. Physical product specifications

Description	Specification
Hardware	• 1-GB DRAM • 256-MB onboard flash memory • 1-GB removable SD flash memory card • Mini-USB connector • RJ-45 traditional console connector • GPS antenna interface (needs future software support) - GPS antenna input • Analog Timing I/O interface (needs future software support) - For analog IRIG support • Digital Timing I/O interface (needs future software support) - For digital timing such as IRIG-B TTL • TOD interface (needs future software support) - Cisco Time-of-Day port to provide RS422 1 PPS, IRIG-B TTL or IOS-8601 and NMEA Time-of-Day support
Alarm	• Alarm I/O: four alarm inputs to detect dry contact open or closed, one Form C alarm output relay
Dimensions (H x W x D)	• 1.75 x 17.5 x 14.0 in. (4.45 x 44.5 x 35.6 cm), 1 RU (rack unit) height with PWR-RGD-AC-DC-H / PWR-RGD-LOW-DC-H • 1.75 x 17.5 x 15.18 in. (4.45 x 44.5 x 38.56 cm), 1 RU (rack unit) height with PWR-RGD-AC-DC-250
Weight	• Without Power Supply: 13.7 lb (6.21 kg) • PWR-RGD-AC-DC-H: 2.55 lb (1.16kg) • PWR-RGD-LOW-DC-H: 2.5 lb (1.13kg) • PWR-RGD-AC-DC-250: 3.1 lb (1.4 kg)
Power consumption	• Maximum of 90W not including PoE consumption
Accessories	• SD-IE-1GB= - Spare SD card

Table 6. Switch performance and scalability

Description	Specification
Forwarding bandwidth	28Gbps (IE-5000-16S12P) or 64Gbps (IE-5000-12S12P-10G) - Line rate/Non-blocking
Switching bandwidth	56Gbps (IE-5000-16S12P) or 128Gbps (IE-5000-12S12P-10G)
Forwarding rate	41.67Mpps (IE-5000-16S12P) or 95.238Mpps (IE-5000-12S12P-10G) with 64 byte packets (Line rate)
Number of queues	4 egress
Unicast MAC addresses	16,000
IGMP multicast groups	1,000
Number of VLANs	1,005
IPv4 MAC security ACEs	1,000 with default TCAM Template
NAT translation	Bidirectional, 256 unique subnet NAT translation entries, which can expand to tens of thousands of translated entries if designed properly

Table 7. Cisco IE 5000 Key LAN Base Software Features

LAN Base license (default)	Features
Layer 2 switching	IEEE 802.1, 802.3, 802.3at, 802.3af standard, VTPv2, NTP, UDLD, CDP, LLDP, Unicast Mac filter, Flexlink, VTPv3, EtherChannel, Voice VLAN, QinQ tunneling
Security	SCP, SSH, SNMPv3, TACACS+, RADIUS Server/Client, MAC Address Notification, BPDU Guard, Port-Security, Private VLAN, DHCP Snooping, Dynamic ARP Inspection, IP Source Guard, 802.1x, Guest VLAN, MAC Authentication Bypass, 802.1x Multi-Domain Authentication, Storm Control, ACT2, Secure boot, Full flexible Netflow[1]
Layer 2 multicast	IGMPv1, v2, v3 Snooping, IGMP filtering, IGMP Querier
Management	Fast Boot, Express Setup, Web Device Manager, Cisco Network Assistant, Cisco Prime™ Infrastructure, MIB, SmartPort, SNMP, syslog, Storm Control - Unicast, Multicast, Broadcast, SPAN Sessions, RSPAN, DHCP Server, Customized TCAM/SDM size configuration, DOM (digital optical management), Hardware Watchdog, Port-based DHCP
Industrial Ethernet	CIP Ethernet/IP, PROFINET v2, IEEE1588 PTP v2 Modbus TCP, Default Profile, CIP Time Sync, NTP to PTP Translation
Quality of service	Ingress Policing, Rate-Limit, Egress Queuing/shaping, AutoQoS, QOS, PROFINET QoS
Layer 2 IPv6	IPv6 Host support, HTTP over IPv6, SNMP over IPv6
Layer 3 routing	IPv4 Static Routing
Industrial management	Layer 2 switching with 1:1 static Network Address Translation (NAT)
Utility	IEEE 1588 v2 PTP Power Profile, dying gasp, GOOSE messaging, SCADA protocol classification, MODBUS TCP/IP, utility SmartPort macro, BFD, Ethernet OAM, IEEE 802.3ah, CFM (IEEE 802.1ag)
Horizontal stacking	Horizontal Stacking supports Layer 2 switching, ARP, Spanning Tree, port channel, Power over Ethernet, static routing, L3 host routing (via two 10GE uplink stack ports)
Timing interface	IRIG-B Output interface (B002, B003, B006, B007, B122, B123, B126, B127 timecode)
Redundancy	Resilient Ethernet Protocol (REP), Parallel Redundancy Protocol (PRP),Media Redundancy protocol (MRP) Ring, High Availability Seamless Redundancy (HSR)

[1] Full flexible Netflow is included is included on all IE-4010 Switches and requires either one of the following licenses per switch:

- Cisco ONE™ Foundation Perpetual license
- DNA Essentials license
- Cisco IP Services license

Table 8. Cisco IE 5000 IP services license: Key software features

IP Services Base license	Additional features
Industrial management	Embedded Event Manager (EEM)
IP unicast routing protocols	OSPF, EIGRP, BGPv4, IS-IS, RIPv2, Policy-Based Routing (PBR), HSRP
IP multicast	PIM Sparse Mode (PIM-SM), PIM Dense Mode (PIM-DM), and PIM sparse-dense mode
Cisco Express forwarding	Hardware routing architecture delivers extremely high-performance IP routing
IPv6 routing	RIPng, OSPFv6, and EIGRPv6 support
Virtualization	VRF-lite
Security	IEEE 802.1AE MACsec (15.2(5)EA supports both uplink and downlink), Cisco TrustSec® supports inline tagging SGT and SGACL,Full flexible Netflow

Table 9. Cisco IE 5000 software licenses

License	Description
L-IE5000-RTU=	IE5000 electronic software license upgrade from LAN base to IP service Layer 3 features
LIC-MRP Manager=	MRP ring manager license
LIC-MRP-Client=	MRP ring client license

Table 10. Cisco ONE™ licenses

Feature	Description
C1F1PIE4K5K1K9 Cisco ONE Foundation Lite Perpetual	Includes Prime Infrastructure (LF and AS), Identity Services Engine – Base
C1F1PIE40001K9 Cisco ONE Foundation Perpetual	Includes Full flexible Netflow, Stealthwatch, Prime Infrastructure, and Identity Services Engine – Base
C1A1PIE40001K9 Cisco ONE Advanced Perpetual	Includes IP Services

Table 11. Cisco IE 5000 DNA Essentials licenses

Feature	Description
Cisco DNA Center	Discovery, topology, inventory, software image management
Visibility	DNA assurance, full flexible Netflow, Device 360
Day-zero network bring-up automation	Cisco Network Plug-and-Play application

Table 12. Cisco IE 5000 DNA Advantage licenses

Feature	Description
DNA Essentials	All DNA Essentials features
Software-defined access	Policy-based automation, IE 5000 can function as an SD-access extended node

Table 13. Cisco IE 5000 DNA license SKUs

PID	Description
IE5000-DNA-E-H	DNA Essentials license
IE5000-DNA-E-H-3Y	DNA Essentials 3-year term license option
IE5000-DNA-E-H-5Y	DNA Essentials 5-year term license option
IE5000-DNA-A-H	DNA Advantage license
IE5000-DNA-A-H-3Y	DNA Advantage 3-year term license option
IE5000-DNA-A-H-5Y	DNA Advantage 5-year term license option

Table 14. Compliance specifications

Type	Standards
Electromagnetic emissions	FCC 47 CFR Part 15 Class A EN 55022A Class A VCCI Class A AS/NZS CISPR 22 Class A CISPR 11 Class A CISPR 22 Class A ICES 003 Class A CNS13438 Class A KN22
Electromagnetic immunity	EN55024 CISPR 24 AS/NZS CISPR 24 KN24 EN 61000-4-2 Electro Static Discharge EN 61000-4-3 Radiated RF EN 61000-4-4 Electromagnetic Fast Transients EN 61000-4-5 Surge EN 61000-4-6 Conducted RF EN 61000-4-8 Power Frequency Magnetic Field EN 61000-4-9 Pulse Magnetic Field EN 61000-4-11 AC Voltage Dips and Interruptions EN 61000-4-18 Damped Oscillatory Wave EN-61000-4-29 DC Voltage Dips and Interruptions
Industry standards	EN 61000-6-1 Immunity for Light Industrial Environments EN 61000-6-2 Immunity for Industrial Environments EN 61000-6-4 Emission Standard for Industrial Environments EN 61326 Industrial Control EN 61131-2 Programmable Controllers IEEE 1613 Class 2 Electric Power Stations Communications Networking IEC 61850-3 Electric Substations Communications Networking EN50155 Railway - Electronic Equipment on Rolling Stock (EMC, ENV, Mech) EN50121-4 Railway - Signaling and Telecommunications Apparatus EN50121-3-2 Railway - Apparatus for Rolling Stock ODVA Industrial EtherNet/IP PROFINET conformance B IP30 (per EN60529)
Safety standards and certifications	**Information technology equipment:** UL/CSA 60950-1 EN 60950-1 CB to IEC 60950-1 with all country deviations NOM to NOM-019-SCFI (through partners and distributor) **Industrial floor (control equipment):** UL 508 CSA C22.2, No 142 **Hazardous Locations, Class I, Div/Zone 2, gas groups IIC:** ANSI/ISA 12.12.01 CSA 213 UL/CSA 60079-0, -15 IEC 60079-0, -15 IECEx test report EN 60079-0, -15 ATEX certification (Cabinet enclosure required)

Type	Standards
Operating environment	Operating Temperature: -40°C to +75°C • -40°C to +70°C (vented enclosure – 40 LFM Air Flow) • -40°C to +60°C (sealed enclosure – 0 LFM Air Flow) • -34°C to +75°C (fan or blower equipped enclosure – 200 LFM air flow) -40°C to +85°C (IEC 60068-2-2 Environmental Type Testing 16 hours) Operating altitude Up to 13,800 feet EN 60068-2-21 EN 61163
Storage environment	Temperature: -40 to +85 degrees C Altitude: 0-15,000 feet IEC 60068-2-14
Humidity	Relative humidity of 0% to 95% non-condensing. IEC 60068-2-3 IEC 60068-2-30
Shock and vibration	IEC 60068-2-27 (operational shock, 50G, 11ms, half sine) IEC 60068-2-27 (nonoperational shock, 65-80G, 9ms, trapezoidal) IEC 60068-2-32 (nonoperational shock) 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)
Corrosion	ISO 9223: Corrosion class C3-Medium class C4-High EN 60068-2-52 (Salt Fog) EN 60068-2-60 (Flowing Mixed Gas)
Others	RoHS Compliance China RoHS Compliance TAA (Government) CE (Europe)
Warranty	5-year limited hardware warranty on all IE 5000 PIDS including the power supplies in Table 4. See link at end of this datasheet for more details on warranty
Mean Time Between Failures (MTBF)	390,190 hours

Table 15. Management and standards

Description	Specification	
IEEE standards	• IEEE 802.1D MAC Bridges, STP • IEEE 802.1p Layer2 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

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

Table 16. SFP support

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-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
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-TE=	1000BASE-T	GE	100m	Copper	EXT	NA
GLC-T=	1000BASE-T	GE	100m	Copper	COM	NA
SFP-10G-BXD-I=	10GBASE-BX10	10GE	10km	SMF	IND	Yes
SFP-10G-BXU-I=	10GBASE-BX10	10GE	10km	SMF	IND	Yes
SFP-10G-BX40D-I=	10GBASE-BX40	10GE	40km	SMF	IND	Yes
SFP-10G-BX40U-I=	10GBASE-BX40	10GE	40km	SMF	INS	Yes
SFP-10G-SR-X=	10GBASE-SR	10GE	400m	MMF	EXT	Yes
SFP-10G-LR-X=	10GBASE-LR	10GE	10km	SMF	EXT	Yes
SFP-10G-SR=	10GBASE-SR	10GE	400m	MMF	COM	Yes
SFP-10G-LRM=	10GBASE-LRM	10GE	200m/300m	MMF/SMF	COM	Yes

Part Number	Specification	SFP Type	Max Distance	Cable Type	Temp Range*	DOM Support
SFP-10G-LR=	10GBASE-LR	10GE	10km	SMF	COM	Yes
SFP-10G-ER=	10GBASE-ER	10GE	40km	SMF	COM	Yes
GLC-T-RGD=	1000BASE-T	GE	100m	Copper	IND	NA
SFP-10G-ZR=	10GBASE-ZR	10GE	80km	SMF	COM	Yes
SFP-H10GB-CUxM=	10G Passive Twinax	10GE	1m/3m/5m	Twinax	COM	NA
SFP-H10GB-ACUxM=	10G Active Twinax	10GE	7m/10m	Twinax	COM	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.

Not all SFPs are supported in PROFINET GSD for SIMATIC STEP7/TIA Portal. Please visit https://www.cisco.com/c/en/us/td/docs/switches/lan/industrial/software/configuration/guide/b_sfp_TIA.html.

Warranty information

Warranty information for the IE 5000 switch is available at http://www.cisco-servicefinder.com/warrantyfinder.aspx.

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