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# Cisco Catalyst IE3300 Rugged Series



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The Cisco Catalyst® IE3300 Rugged Series ushers in mainstream adoption of Gigabit Ethernet connectivity in a compact, form-factor, modular switch that is purpose-built for a wide variety of extended enterprise and industrial applications.

## Product overview

Cisco Catalyst IE3300 Rugged Series switches deliver high-speed up to 10 Gigabit Ethernet connectivity in a compact form factor, and are designed for a wide range of industrial applications where hardened products are required. The modular design of the Cisco Catalyst IE3300 Rugged Series offers the flexibility to expand to up to 26 ports of Gigabit Ethernet or up to 24 ports of Gigabit Ethernet and 2 ports of 10 Gigabit (10G) Ethernet with a range of expansion module options. The platform is built to withstand harsh environments in manufacturing, energy, transportation, mining, smart cities, and oil and gas. The IE3300 platform is also ideal for extended enterprise deployments in outdoor spaces, warehouses, and distribution centers.

These switches run Cisco IOS® XE, a next-generation operating system with built-in security and trust, featuring secure boot, image signing, and the Cisco® Trust anchor module. Cisco IOS XE also provides API-driven configuration with open APIs and data models.

The Cisco Catalyst IE3300 Rugged Series can be managed with powerful management tools such as Cisco DNA Center and Cisco Industrial Network Director, and can be easily set up with a completely redesigned user-friendly modern GUI tool called WebUI. The platform also supports Full Flexible NetFlow (FNF) for real-time visibility into traffic patterns and threat analysis with Cisco Stealthwatch®.

The IE3300 all Gigabit series (with expansion module) supports power budget of up to 360W for PoE/PoE+, shared across up to 24 ports, and is ideal for connecting PoE-powered end devices such as IP cameras, phones, wireless access points, sensors, and more.

The IE3300 10G series (with expansion module) supports power budget of up to 480W (pending safety & compliance approval) for IEEE® 802.3af / 802.3at / 802.3bt (type 3 & type 4), shared across up to 24 ports, and is ideal for connecting high power PoE end devices such as PTZ IP cameras, phones, high power 802.11ac Wave 2 / 802.11ax wireless access points, sensors, and more.



**Figure 1.**  
IE 3300 with 10G uplinks and IE 3300 with 1GE uplinks

## Features and benefits

**Table 1.** IE3300 features and benefits

Feature	Benefit
<b>Robust industrial design</b>	<ul style="list-style-type: none"> <li>• Built for harsh environments and temperature ranges (-40° C to +75° C)</li> <li>• Fanless, convection-cooled with no moving parts for extended durability</li> <li>• Hardened for vibration, shock and surge, and electrical noise immunity</li> <li>• Complies with multi-industry specifications for automation, ITS, and substation environments</li> <li>• Improves uptime, performance, and safety of industrial systems and equipment</li> <li>• Covers a wide range of Power over Ethernet (PoE) (up to IEEE® 802.3bt type 4) application requirements</li> <li>• Alarm I/O for monitoring and signaling to external equipment</li> </ul>
<b>Full Gigabit Ethernet interfaces with 10G uplink variants</b>	<ul style="list-style-type: none"> <li>• Provides secure access for new high-speed applications in the industrial space</li> <li>• There are two base system port configurations available: 2 ports of 1GE uplinks or 2 ports of 10G uplinks: <ul style="list-style-type: none"> <li>◦ Packs up to 10 ports – 2x 10G Small Form-Factor Pluggable (SFP+) uplinks plus 8x 1GE copper RJ45 downlink ports (with IEEE® 802.3bt PoE or non-PoE) in a small form-factor base system</li> <li>◦ Packs up to 10 ports of GE – 2x 1GE Small Form-Factor Pluggable (SFP) uplinks plus 8x 1GE copper RJ45 downlink ports (with PoE+ or non PoE) in a small form-factor base system</li> </ul> </li> <li>• Expandable <ul style="list-style-type: none"> <li>◦ to up to 26 ports of GE by attaching one of 8 compatible modules (copper, PoE, fiber and 2.5G with IEEE® 802.3bt type 4 options)</li> <li>◦ to up to 24 ports of GE plus 2 ports of 10G by attaching one of the 8 compatible modules (copper, PoE, fiber and 2.5G with IEEE® 802.3bt type 4 options)</li> </ul> </li> <li>• Connects high-speed wireless access points (802.11n, 802.11ac, 802.11ac WAVE 2, 802.11ax)</li> <li>• Enables Ultra High-Definition (UHD), PTZ IP cameras, Programmable Logic Controllers (PLC) and Wi-Fi 6 Access Points</li> <li>• Delivers multiple rings and redundant ring topologies for new network configurations</li> <li>• Extends geographical scalability where longer-distance connectivity is required</li> </ul>
<b>High-density industrial Power over Ethernet (PoE)</b>	<ul style="list-style-type: none"> <li>• Supports <ul style="list-style-type: none"> <li>◦ up to 24x PoE/PoE+ ports or 4x 802.3bt type 4 ports (with 2.5G expansion module) with the all GE PoE enabled base [Power budget – 360W]</li> <li>◦ up to 24x PoE/PoE+ ports or 4x 802.3bt type 3 ports (on PoE base system) or 4x 802.3bt type 4 ports (with 2.5G expansion module) with the 10G PoE enabled base [Power budget – 480Watts]</li> </ul> </li> <li>• Controls costs by limiting wiring, distribution panels, and circuit breakers</li> <li>• Reduces equipment needs, thus requiring less space and reducing heat dissipation</li> <li>• Enables ready-to-use PoE devices, such as IP phones, cameras, and wireless access points</li> </ul>
<b>User-friendly GUI, called WebUI</b>	<ul style="list-style-type: none"> <li>• Allows for easy configuration and monitoring</li> <li>• Eliminates the need for more complex, terminal emulation programs</li> <li>• Reduces the cost of deployment</li> </ul>
<b>SwapDrive for zero-configuration replacement</b>	<ul style="list-style-type: none"> <li>• True zero-configuration and simple switch replacement in the event of a failure</li> <li>• No networking expertise required</li> <li>• Helps ensure fast recovery</li> </ul>
<b>Full Flexible NetFlow (FNF)</b>	<ul style="list-style-type: none"> <li>• Provides enhanced flow and threat visibility</li> <li>• Enables optimization of the network infrastructure, reduces operation costs, and improves capacity planning and security incident detection</li> </ul>

## Products overview

**Table 2.** Product feature sets

Product family	Platforms supported	Cisco IOS Software image (feature sets) supported
IE3000	IE3300	Network Essentials <sup>1</sup> , Network Advantage <sup>1</sup>

<sup>1</sup> The Hardware PID with “-E” suffix is Network Essentials and with “-A” suffix is Network Advantage. Network Advantage License includes all Network Essentials Features.

## Product specifications

Table 3 highlights the hardware configuration for Cisco Catalyst IE3300 Rugged Series switches and the supported modules with these switches.

**Table 3.** IE3300 Hardware configurations (incl. IE3300 modules)

Product number*	Total ports	10/100/1000 RJ45 Copper ports	100/1000 SFP ports	1GE/2.5G RJ45 Copper ports	1GE/10G SFP+ Ports	Software license (Default)**	PoE / PoE (+) budget
IE-3300-8T2S-E	10	8	2	-	-	Network Essentials	N.A.
IE-3300-8T2S-A	10	8	2	-	-	Network Advantage	N.A.
IE-3300-8P2S-E	10	8	2	-	-	Network Essentials	240W (base), 360W (with module)
IE-3300-8P2S-A	10	8	2	-	-	Network Advantage	240W (base), 360W (with module)
IE-3300-8T2X-E	10	8	-	-	2	Network Essentials	N.A.
IE-3300-8T2X-A	10	8	-	-	2	Network Advantage	N.A.
IE-3300-8U2X-E <sup>1</sup>	10	8	-	-	2	Network Essentials	480W
IE-3300-8U2X-A <sup>1</sup>	10	8	-	-	2	Network Advantage	480W
IEM-3300-4MU= <sup>1</sup>	4	-	-	4	-	N.A.	Supported with IE3300 PoE base modules to provide a total PoE budget of 360W with the all GE base and up to 480Watts <sup>3</sup> with IE3300 10G base and IE3400 PoE base

Product number*	Total ports	10/100/1000 RJ45 Copper ports	100/1000 SFP ports	1GE/2.5G RJ45 Copper ports	1GE/10G SFP+ Ports	Software license (Default)**	PoE / PoE (+) budget
IEM-3300-8P=	8	8	N.A.	-	-	N.A.	Supported with IE3300 PoE base modules to provide a total PoE budget of 360W with the all GE base and up to 480Watts with IE3300 10G base and IE3400 PoE base
IEM-3300-16P=	16	16	N.A.	-	-	N.A.	Supported with IE3300 PoE base modules to provide a total PoE budget of 360W with the all GE base and up to 480Watts with IE3300 10G PoE base and IE3400 PoE base
IEM-3300-8S=	8	N.A.	8	-	-	N.A.	N.A.
IEM-3300-8T=	8	8	N.A.	-	-	N.A.	N.A.
IEM-3300-16T=	16	16	N.A.	-	-	N.A.	N.A.
IEM-3300-6T2S=	8	6	2	-	-	N.A.	N.A.
IEM-3300-14T2S=	16	14	2	-	-	N.A.	N.A.

\* PoE modules can only be plugged with PoE base switch. IE3300 expansion modules can also be plugged with IE3400 base switch. However, this combination prevents support for advanced security feature such as SGT/SGACL on the IE3400 base switch.

\*\* Network Advantage License includes all Network Essentials Features.

<sup>1</sup> Orderability currently planned for January, 2021.

Table 4 highlights the hardware specifications for Cisco Catalyst IE3300 Rugged Series switches.

**Table 4.** IE3300 hardware specifications

Hardware specification	Cisco IE-3300-8T2S-E / -A	Cisco IE-3300-8P2S-E / -A	Cisco IE-3300-8T2X-E/ -A	Cisco IE-3300-8U2X-E/ -A
PoE power budget	Not applicable	360W <sup>1</sup> (including expansion module)	Not applicable	Up to 480W <sup>1,4</sup> (including expansion module)
Removable storage	USB <sup>2,3</sup> , SD card <sup>2</sup>	USB <sup>2,3</sup> , SD card <sup>2</sup>	USB <sup>2,3</sup> , SD card <sup>2</sup>	USB <sup>2,3</sup> , SD card <sup>2</sup>
Alarms	2 alarms in, 1 alarm out	2 alarms in, 1 alarm out	2 alarms in, 1 alarm out	2 alarms in, 1 alarm out

Hardware specification	Cisco IE-3300-8T2S-E / -A	Cisco IE-3300-8P2S-E / -A	Cisco IE-3300-8T2X-E / -A	Cisco IE-3300-8U2X-E / -A
Console ports	1 RS-232 (via RJ-45), 1 USB Mini Type B	1 RS-232 (via RJ-45), 1 USB Mini Type B	1 RS-232 (via RJ-45), 1 USB Mini Type B	1 RS-232 (via RJ-45), 1 USB Mini Type B
Power inputs	Dual DC power inputs	Dual DC power inputs	Dual DC power inputs	Dual DC power inputs

<sup>1</sup> In order to achieve 360W/480W power budget, the minimum power requirements as specified in Table 8 for the switch need to be considered when selecting the power supply.

<sup>2</sup> The SD card and USB are optional and are not shipped by default with the switch.

<sup>3</sup> USB 2.0 to load system images and set configurations.



**Figure 2.**  
Expansion modules

Table 5 highlights the hardware configuration for Cisco Catalyst IE3300 Rugged Series modules.

**Table 5.** Hardware configuration for Cisco Catalyst IE3300 Rugged Series modules

Descriptions	Total ports on expansion module	Copper (RJ45) 100/1000Mbps	PoE/PoE+ 100/1000Mbps	SFP 100/1000Mbps	Copper (RJ45) 1 GE/2.5G (with up to 802.3bt type 4 PoE)	Total system ports (including expansion module)
IEM-3300-4MU= <sup>1,2</sup>	4	-	-	-	4	14
IEM-3300-8T=	8	8	-	-	-	18
IEM-3300-8P=	8	-	8	-	-	18
IEM-3300-8S=	8	-	-	8	-	18
IEM-3300-16T=	16	16	-	-	-	26
IEM-3300-16P=	16	-	16	-	-	26
IEM-3300-6T2S=	8	6	-	2	-	18
IEM-3300-14T2S=	16	14	-	2	-	26

<sup>1</sup> Orderability currently planned for January, 2021.

<sup>2</sup> Please refer to the conditions for using IEEE 802.3bt type 4 standard power in the Hardware Installation Guide at product availability.

Table 6 highlights the physical configuration for Cisco Catalyst IE3300 Rugged Series switches and modules.

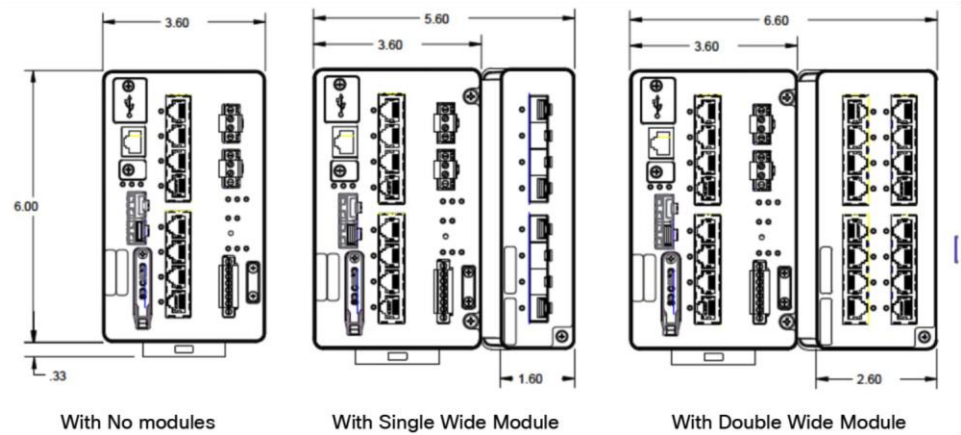
**Table 6.** IE3300 physical configurations

PID details	Dimensions (H x W x D)	Weight	Mounting
<b>IE-3300-8T2S-E</b>	6 in. X 3.6 in. X 5.3 in. 15.2 cm. x 9.1 cm. x 13.5 cm	3.8 lbs 1.7 kg	DIN rail
<b>IE-3300-8T2S-A</b>	6 in. X 3.6 in. X 5.3 in. 15.2 cm. x 9.1 cm. x 13.5 cm	3.8 lbs 1.7 kg	DIN rail
<b>IE-3300-8P2S-E</b>	6 in. X 3.6 in. X 5.3 in. 15.2 cm. x 9.1 cm. x 13.5 cm	3.8 lbs 1.7 kg	DIN rail
<b>IE-3300-8P2S-A</b>	6 in. X 3.6 in. X 5.3 in. 15.2 cm. x 9.1 cm. x 13.5 cm	3.8 lbs 1.7 kg	DIN rail
<b>IE-3300-8T2X-E</b>	6 in. X 3.8 in. X 5.3 in. 15.2 cm. x 9.7 cm. x 13.5 cm	3.6 lbs 1.6 kg	DIN rail
<b>IE-3300-8T2X-A</b>	6 in. X 3.8 in. X 5.3 in. 15.2 cm. x 9.7 cm. x 13.5 cm	3.6 lbs 1.6 kg	DIN rail
<b>IE-3300-8U2X-E</b>	6 in. X 4.4 in. X 5.3 in. 15.2 cm. x 11.2 cm. x 13.5 cm	4.5 lbs 2.0 kg	DIN rail
<b>IE-3300-8U2X-A</b>	6 in. X 4.4 in. X 5.3 in. 15.2 cm. x 11.2 cm. x 13.5 cm	4.5 lbs 2.0 kg	DIN rail
<b>IEM-3300-4MU=</b>	6 in. X 3.6 in. X 5.3 in. 15.2 cm. x 9.1 cm. x 13.5 cm	3.0 lbs 1.4 kg	DIN rail
<b>IEM-3300-8T=</b>	6 in. X 2.6 in. X 5.3 in. 15.2 cm. x 6.6 cm. x 13.5 cm	2.0 lbs 0.91 kg	DIN rail
<b>IEM-3300-8P=</b>	6 in. X 2.6 in. X 5.3 in. 15.2 cm. x 6.6 cm. x 13.5 cm	2.0 lbs 0.91 kg	DIN rail
<b>IEM-3300-8S=</b>	6 in. X 2.6 in. X 5.3 in. 15.2 cm. x 6.6 cm. x 13.5 cm	2.0 lbs 0.91 kg	DIN rail
<b>IEM-3300-16T=</b>	6 in. X 3.6 in. X 5.3 in. 15.2 cm. x 9.1 cm. x 13.5 cm	2.7 lbs 1.2 kg	DIN rail
<b>IEM-3300-16P=</b>	6 in. X 3.6 in. X 5.3 in. 15.2 cm. x 9.1 cm. x 13.5 cm	2.7 lbs 1.2 kg	DIN rail
<b>IEM-3300-6T2S=</b>	6 in. X 2.6 in. X 5.3 in. 15.2 cm. x 6.6 cm. x 13.5 cm	2.0 lbs 0.91 kg	DIN rail
<b>IEM-3300-14T2S=</b>	6 in. X 3.6 in. X 5.3 in. 15.2 cm. x 9.1 cm. x 13.5 cm	2.7 lbs 1.2 kg	DIN rail

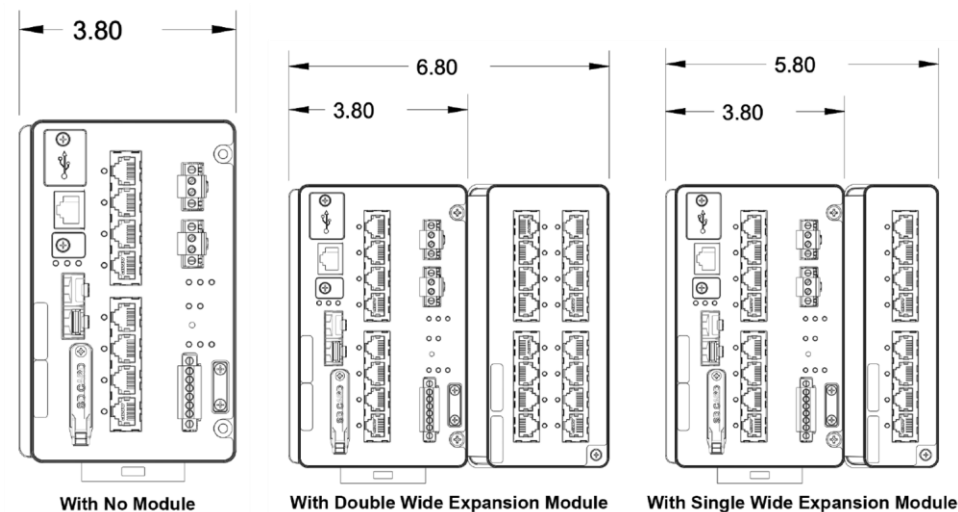


System dimensions

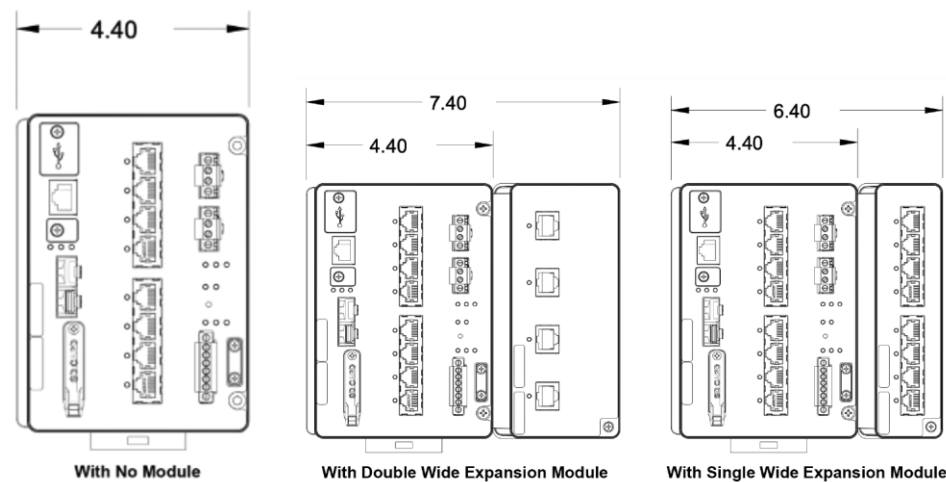
Front view (IE-3300-8T2S / IE-3300-8P2S)



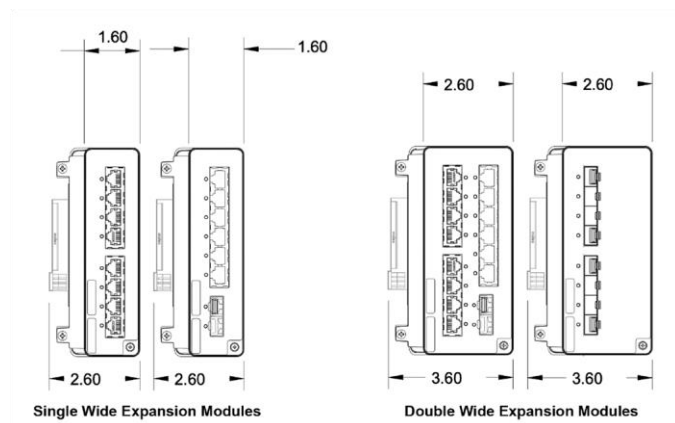
Front view (IE-3300-8T2X)



Front view (IE-3300-8U2X)



## Module dimensions - Front view



Single wide expansion modules add 2 inches to the system width effectively.

Double wide expansion modules add 3 inches to the system width effectively.

## Top view

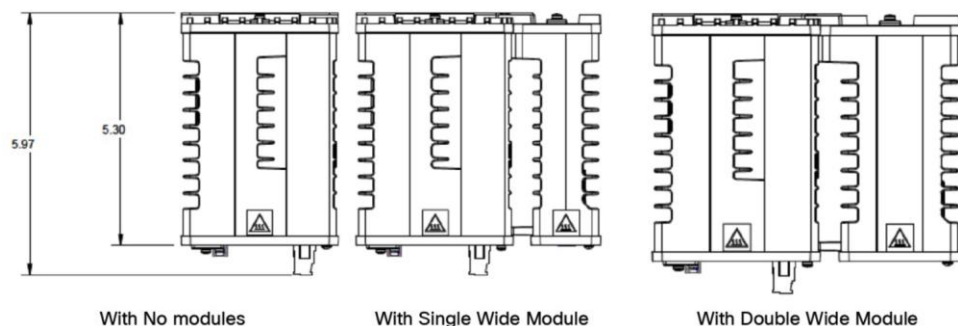


Table 7 highlights the performance and scalability features for Cisco Catalyst IE3300 Rugged Series switches.

**Table 7.** IE3300 performance and scalability features

Features	Cisco IE-3300-8T2S-E / -A Cisco IE-3300-8P2S-E / -A	Cisco IE-3300-8T2X-E / -A Cisco IE-3300-8U2X-E / -A
<b>Forwarding rate</b>	Line rate for all ports and all packet sizes	Line rate for all ports and all packet sizes
<b>Number of queues</b>	8	8
<b>Unicast MAC addresses</b>	8K	8K
<b>Internet Group Management Protocol (IGMP) multicast groups</b>	1K	1K
<b>No. of VLANs</b>	256	256
<b>IPv4 Indirect routes<sup>1</sup></b>	2000	2000
<b>IPv6 Indirect routes<sup>1</sup></b>	512	512

Features	Cisco IE-3300-8T2S-E / -A Cisco IE-3300-8P2S-E / -A	Cisco IE-3300-8T2X-E / -A Cisco IE-3300-8U2X-E / -A
Spanning Tree Protocol (STP) instances	128	128
Access Control Lists (PACL/VACL/RACL)	1.5K	1.5K
DRAM	2 GB	4 GB
Flash [User Accessible]	1.5 GB	1.5 GB
SD card capacity <sup>2</sup>	4 GB	4 GB
Jumbo Frames	8996 bytes	8996 bytes

<sup>1</sup> Supported with -A SKUs or -E SKUs (with Network Advantage license).

<sup>2</sup> The SD card is optional and is not shipped by default with the switch.

Table 8 highlights the power specifications for Cisco Catalyst IE3300 Rugged Series switches.

**Table 8.** IE3300 power specifications

Features	Cisco IE-3300-8T2S -E / -A	Cisco IE-3300-8P2S -E / -A	Cisco IE-3300-8T2X -E / -A	Cisco IE-3300-8U2X -E / -A
Input voltage range	Redundant DC input voltage: 9.6 to 60VDC	Redundant DC input voltage: 9.6 to 60VDC  48VDC is required for PoE and 54VDC is required for PoE+	Redundant DC input voltage: 9.6 to 60VDC	Redundant DC input voltage: 9.6 to 60VDC  48VDC is required for PoE and 54VDC is required for PoE+ / 4PPoE
Maximum Input current	3.8A	10.5A	4.5A	10.5A
Power consumption <sup>1</sup>	23W	32W	28W	42W

<sup>1</sup> Power consumption for non PoE supported model is measured at 12V and for the PoE supported model is measured at 54V. Power consumption does not include PoE power.

Table 9 highlights the power specifications for supported expansion modules in Cisco Catalyst IE3300 Rugged Series switches.

**Table 9.** IEM3300 modules power consumption

Product ID detail	Power Consumption <sup>1</sup>
IEM-3300-4MU=	20W
IEM-3300-8T=	6W
IEM-3300-8P=	14W
IEM-3300-8S=	19W
IEM-3300-16T=	12W
IEM-3300-16P=	21W
IEM-3300-6T2S=	9W
IEM-3300-14T2S=	16W

<sup>1</sup> Power consumption for non PoE supported model is measured at 12V and for the PoE supported model is measured at 54V.

Table 10 highlights the power supply options for Cisco Catalyst IE3300 Rugged Series switches.

**Table 10.** Power supply options

Product Number	Wattage	Rated nominal input operating range	PoE/PoE+ support <sup>1</sup>	More Details
PWR-IE50W-AC=	50W	AC 100-240V/1.25A 50-60Hz or DC 125-250V/1.25A	No	<a href="#">Click here</a> for more details on these DIN Rail power supplies
PWR-IE50W-AC-IEC=	50W	AC 90-264V	No	
PWR-IE50W-AC-L= <sup>2</sup>	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	

Product Number	Wattage	Rated nominal input operating range	PoE/PoE+ support <sup>1</sup>	More Details
PWR-IE240W-PCAC-L= <sup>2</sup>	240W	AC 100–240V/3.5A 50–60Hz	Yes	
PWR-IE480W-PCAC-L= <sup>2</sup>	480W	AC 100–240V/6.0A 50–60Hz	Yes	

<sup>1</sup> The entire power budget for the switch and PoE ports must stay within the power supply wattage.

<sup>2</sup> The power supplies are not certified for smart grid and hazardous locations. These power supplies are IP20 rated.

Table 11 and 12 highlight the supported software features for Cisco Catalyst IE3300 Rugged Series switches.

**Table 11.** Key supported software features (Network Essentials License)

Network Essentials License (Perpetual)	Features
<b>Layer 2 switching</b>	IEEE 802.1, 802.3 standard, NTP, UDLD, CDP, LLDP, unicast MAC filter, PAgP, LACP VTPv2, VTPv3, EtherChannel, Q-in-Q tunneling, voice VLAN, PVST+, MSTP, and RSTP
<b>Multicast</b>	IGMPv1, v2, v3 snooping, IGMP filtering, IGMP querier
<b>Management</b>	WebUI, MIB, SmartPort, SNMP, syslog, DHCP server, SPAN session, RSPAN, FSPAN, Express setup, NETCONF, RESTCONF
<b>Security</b>	Port security, 802.1x, Dynamic Host Configuration Protocol (DHCP) snooping, dynamic ARP inspection, IP source guard, guest VLAN, MAC authentication bypass, 802.1x multidomain authentication, storm control – unicast, multicast, broadcast, SCP, SSH, SNMPv3, TACACS+, RADIUS server/client, MAC address notification, BPDU guard, Access Lists (PACL,VACL,RACL), SUDI 2099 (Secure Unique Device identifier), Full Flexible NetFlow (FNF), MACsec-128
<b>Quality of Service (QoS)</b>	Ingress policing, rate limit, egress queuing and shaping, auto QoS
<b>IPv6</b>	IPv6 host support, SNMP over IPv6, HTTP/HTTP(s) over IPv6, Syslog over IPv6, DHCPv6 relay source, DHCPv6 bulk lease query (RFC 5460), IPv6 stateless Auto Config SCP/SSH, Radius, TACACS+, NTP over IPv6, IPv6 VRF aware BGPv6, IPV6 ND cache expire, IPv6 support for TFTP, IPv6 DNS transport, IPv6 QoS, IPv6 FHS RA Guard, IPv6 FHS DHCPv6 Guard
<b>Layer 3 routing</b>	Inter-VLAN routing, Static routing
<b>Industrial Ethernet</b>	CIP Ethernet/IP, IEEE 1588 PTP v2 (default and power) <sup>1</sup> , PROFINET
<b>Redundancy</b>	Resilient Ethernet Protocol (REP) ring, PROFINET-Media Redundancy Protocol (MRP), REP Preferred, Fast REP
<b>Utility</b>	Dying gasp, SCADA protocol classification – GOOSE messaging, MODBUS TCP/IP
<b>Automation</b>	YANG, NETCONF, RESTCONF

Network Essentials License (Perpetual)	Features
Industrial Management	Layer 2 switching with 1:1 switch Network Address Translation (L2NAT) <sup>2</sup>
IOx	Container (Native docker) <sup>3</sup>

<sup>1</sup> IE 3300 base systems with GE uplinks support IEEE 1588 PTPv2 with both Default Profile and Power Profile (IEEE C37.238:2011). IE 3300 base systems with 10G uplinks support IEEE 1588 PTPv2 Default Profile only. IEM-3300-4MU expansion module does not support PTP at this time.

<sup>2</sup> Supported on Uplink ports on IE 3300 all GE base systems only.

<sup>3</sup> Available on IE 3300 with 10G uplinks variants only.

**Table 12.** Key supported software features (Network Advantage License)\*

Network Advantage License (Perpetual)	Features
IP routing Protocols	OSPF (v4 and v6), BGP (v4 and v6), RIP (V1 and V2), ISIS (v4 and v6), EIGRP (v4 and v6), Policy based routing(PBR), VRRP(v4 and v6),, HSRP(v4 and v6)
Virtualization	Vrf-lite
Security	MACsec-256
IP Multicast	PIM sparse mode (PIM-SM), PIM dense mode (PIM-DM), PIM sparse dense mode, MSDP, Multicast routing BSR (IPv4/IPv6), Auto RP(IPv4), Embedded RP(IPv6)

\* Network Advantage License includes all Network Essentials Features.

Table 13 highlights the details on Cisco DNA Essentials and Cisco DNA Advantage License for Cisco Catalyst IE3300 Rugged Series switches.

**Table 13.** Cisco IE3300 Cisco DNA Essentials and Cisco DNA Advantage license

Feature	Description	Cisco DNA Essentials	Cisco DNA Advantage
Cisco DNA Center	Discovery, Topology, Inventory, software image management	YES	YES
Visibility	Cisco DNA assurance, Device 360	YES	YES
Day-zero network bring-up automation	Cisco Network Plug-and-Play application	YES	YES
Software-define Access	Policy based automation, IE3300 can function as an SD-Access extended node	N.A.	YES

Cisco DNA licenses for Industrial Ethernet switches are add-on/optional and not mandatory. These do not include Network Tier features.

Table 14 highlights the compliance specifications for Cisco Catalyst IE3300 Rugged Series switches.

**Table 14.** Compliance Specifications<sup>1</sup>

Descriptions	Specifications
<b>Industrial Automation Control System</b>	IEC 62443-4-1 IEC 62443-4-2
<b>Electromagnetic emissions</b>	FCC 47 CFR Part 15 subpart B Class A EN 55032/CISPR 32 Class A VCCI Class A AS/NZS CISPR 32 Class A CISPR 11 Class A ICES 003 Class A CNS 13438 Class A <sup>3</sup> KN 32 Class A <sup>3</sup> EN 300 386
<b>Electromagnetic immunity</b>	CISPR 24 EN 55024 KN 35 <sup>3</sup> EN 61000-4-2 Electro Static Discharge (air – 15kV, contact – 8kV) EN 61000-4-3 Radiated RF (10V/m UTP, 20V/m STP) EN 61000-4-4 Electromagnetic Fast Transients (4kV) EN 61000-4-5 Surge (2KV/1KV Power, 4KV STP) EN 61000-4-6 Conducted RF (10Vrms UTP) EN 61000-4-8 Power Frequency Magnetic Field (1000A/m) EN 61000-4-10 Damped Oscillatory Magnetic Field (100 A/m) EN 61000-4-16 Conducted CM Disturbances (30V, Cont/ 300V, 1 sec) EN 61000-4-17 Ripple Immunity DC Power (10%) EN 61000-4-18 Damped Oscillatory Wave (2.5kV, 1MHz) EN-61000-4-29 DC Voltage Dips and Interruptions
<b>Industry standards</b>	EN 61000-6-2 Industrial Immunity EN 61000-6-4 Industrial Emissions EN 61000-6-1 Light Industrial Immunity EN 61326-1 Measurement, Control and Laboratory Equipment IEEE 1613 Electric Power Stations Communications Networking EN/IEC 61850-3 Electric Substations Communications Networking EN50121-4 Railway – Signaling and Telecommunications Apparatus <sup>3</sup> ODVA Industrial EtherNet/IP NEMA TS 2-2016 <sup>3</sup> IP30

Descriptions	Specifications
<b>Safety standards and certifications</b>	<p>Information Technology Equipment:</p> <p>UL/CSA 60950-1, CB to IEC 60950-1 with all country deviations</p> <p>UL/CSA 62368-1, CB to IEC 62368-1 with all country deviations<sup>2</sup></p> <p>Industrial floor (control equipment):</p> <p>UL/CSA 61010-2-201</p> <p>CB report and certificate to IEC/EN 61010-2-201</p> <p>Hazardous locations:</p> <p>UL121201(Class I, Div 2, groups A-D)</p> <p>CSA 213 (Class I, Div 2, groups A-D)</p> <p>UL/CSA 60079-0, -15 (Class I, Zone 2, Gc/IIC)</p> <p>IEC 60079-0, -15 IECEx test report (Class I, Zone 2, Gc/IIC)</p> <p>EN 60079-0, -15 ATEX certificate (Class I, Zone 2, Gc/IIC) Cabinet enclosure required</p>
<b>Operating environment</b>	<p>Operating temperature:</p> <p>-40° C to +70° C (40 LFM vented enclosure)</p> <p>-40° C to +60° C (sealed enclosure)</p> <p>-34° C to +75° C (Min. 200 LFM fan or blower-equipped enclosure)</p> <p>+85° C (type tested for 16 hours)</p> <p>Altitude: up to 15,000 feet</p>
<b>Storage environment</b>	<p>Temperature: -40° C to +85° C degrees</p> <p>Altitude: 15,000 feet</p> <p>IEC 60068-2-14</p>
<b>Humidity</b>	<p>Relative humidity of 5% to 95% non-condensing</p> <p>IEC 60068-2-78</p> <p>IEC 60068-2-30</p>
<b>Shock and vibration</b>	<p>IEC 60068-2-27 (operational shock, 50G, 3ms, half sine)</p> <p>IEC 60068-2-27 (non-operational shock, 65-80G, 9ms, trapezoidal)</p> <p>MIL-STD-810, Method 514.4</p> <p>IEC 60068-2-6 (vibration-sinusoidal, 5Hz-150Hz)</p>
<b>Corrosion</b>	<p>IEC 60068-2-52 (salt fog)<sup>3</sup></p> <p>IEC 60068-2-60 (flowing mixed gas)<sup>3</sup></p>
<b>Warranty</b>	<p>Five-year limited hardware warranty on all IE3300 product IDs and all Industrial Ethernet (IE) power supplies. See more information under the Warranty section</p>

<sup>1</sup> For more detailed information on safety approved power/thermal ratings refer the Hardware Installation Guide.

<sup>2</sup> Test in progress.

<sup>3</sup> IE 3300 10G variants' compliance approvals pending.



Table 15 highlights Mean-Time-Between-Failures (MTBF) for Cisco Catalyst IE3300 Rugged Series switches.

**Table 15.** MTBF Information (Telcordia Issue 3)

Product ID detail	Rated MTBF (hours)
IE-3300-8T2S-E	633,420
IE-3300-8T2S-A	633,420
IE-3300-8P2S-E	611,350
IE-3300-8P2S-A	611,350
IE-3300-8T2X-E	463,629*
IE-3300-8T2X-A	463,629*
IE-3300-8U2X-E	436,034*
IE-3300-8U2X-A	436,034*
IEM-3300-4MU=	1,272,430*
IEM-3300-8T=	3,041,040
IEM-3300-8P=	2,931,233
IEM-3300-8S=	6,810,960
IEM-3300-16T=	1,594,210
IEM-3300-16P=	1,043,520
IEM-3300-6T2S=	3,729,130
IEM-3300-14T2S=	1,865,300

\* Figures are Predicted MTBF numbers, measured according to Telcordia Issue 4. The numbers may vary at availability.

Table 16 highlights information about management and standards for Cisco Catalyst IE3300 Rugged Series switches.

**Table 16.** Management and Standards

Descriptions	Specifications	
<b>IEEE standards</b>	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 1588v2 PTP Precision Time Protocol	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 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet plus
<b>RFC compliance</b>	RFC 768: UDP RFC 783: TFTP RFC 791: IPv4 protocol RFC 792: ICMP RFC 793: TCP RFC 826: ARP RFC 854: Telnet 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 951: BootP	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 RFC 5460: DHCPv6 bulk lease query

Descriptions	Specifications	
SNMP MIB objects	802.1X MIB	CISCO-IF-EXTENSION-MIB
	CISCO-DHCP-SNOOPING-MIB	CISCO-IMAGE-MIB
	CISCO-UDLD-MIB	CISCO-MEMORY-POOL-MIB
	CISCO-ENVMON-MIB	CISCO-PING-MIB
	CISCO-PRIVATE-VLAN-MIB	SNMP-TARGET-EXT-MIB
	CISCO-PAE-MIB	IF_MIB
	Cisco-Port-QoS-MIB	ENTITY-MIB
	CISCO-ERR-DISABLE-MIB	LLDP-EXT-PNO-MIB
	CISCO- PROCESS-MIB	NOTIFICATION-LOG-MIB
	LLDP-MIB	OLD-CISCO-CPU-MIB
	CiscoMACNotification-MIB	ETHERLIKE-MIB
	CISCO-CONFIG-COPY-MIB	OLD-CISCO-SYSTEM-MIB
	LLDP-MED-MIB	OLD-CISCO-MEMORY-MIB
	Bridge-MIB	RMON-MIB
	CISCO-CAR-MIB	SNMP-COMMUNITY-MIB
	CISCO-LAG-MIB	SNMP-FRAMEWORK-MIB
	CISCO-SYSLOG-MIB	SNMP-PROXY-MIB
	CISCO-FTP-CLIENT-MIB	SNMP-MPD-MIB
	CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB	SNMP-NOTIFICATION-MIB
	CISCO-VLAN-MEMBERSHIP-MIB	SNMP-TARGET-MIB
	Cisco-REP-MIB	SNMP-USM-MIB
	CISCO-PORT-STORM-CONTROL-MIB	CISCO-DATACOLLECTION-MIB
	CISCO-CDP-MIB	CISCO-CABLE-DIAG-MIB
	CISCO-IP-STAT-MIB	CISCO -PORT-SECURITY-MIB
	CISCO-LICENSE-MGMT-MIB	BULK_FILE_MIB
	CISCO-STP-EXTN-MIB	NAC-NAD-MIB
	CISCO-VTP-MIB	CISCO-ENTITY-ALARAM-MIB
	IEEE8023-LAG-MIB	SNMP-VIEW-BASED-ACM-MIB
	SMON-MIB	CISCO-MAC-AUTH-BYPASS-MIB
	CISCO-ACCESS-ENVMON-MIB	CISCO-AUTH-FRAMEWORK-MIB
	CISCO-CALLHOME-MIB	CISCO-BRIDGE-Ext-MIB
	CISCO-CONFIG-MAN-MIB	SNMPv2-MIB
	CISCO-FLASH-MIB	CISCO-ENTITY-VENDORTYPE-OID-MIB
	CISCO-ENTITY-SENSOR-MIB	CISCO-PRODUCTS-MIB
	IP-MIB	IP-FORWARD-MIB
	CISCO-PAGP-MIB	BGP-CISCO-BGP-MIBv2

Table 17 highlights information about supported SFPs for Cisco Catalyst IE3300 Rugged Series switches.

**Table 17.** SFP Support

Part number	Specifications	SFP type	Temperature range <sup>1</sup>	Maximum distance	Cable type	Dom support	Cisco IE-3300-8T2S Cisco IE-3300-8P2S	Cisco IE-3300-8T2X Cisco IE-3300-8U2X
<b>GLC-FE-100FX-RGD</b>	100BASE-FX	FE	IND	2 km	Multimode fiber (MMF)	No	Supported	Supported <sup>2</sup>
<b>GLC-FE-100LX-RGD</b>	100BASE-LX10	FE	IND	10 km	Single-Mode Fiber (SMF)	No	Supported	Supported <sup>2</sup>
<b>GLC-FE-100FX</b>	100BASE-FX	FE	COM	2 km	MMF	No	Supported	Supported <sup>2</sup>
<b>GLC-FE-100LX</b>	100BASE-LX10	FE	COM	10 km	SMF	No	Supported	Supported <sup>2</sup>
<b>GLC-FE-100EX</b>	100BASE-EX	FE	COM	40 km	SMF	No	Supported	Supported <sup>2</sup>
<b>GLC-FE-100ZX</b>	100BASE-ZX	FE	COM	80 km	SMF	No	Supported	Supported <sup>2</sup>
<b>GLC-FE-100BX-U</b>	100BASE-BX10	FE	COM	10 km	SMF	No	Supported	Supported <sup>2</sup>
<b>GLC-FE-100BX-D</b>	100BASE-BX10	FE	COM	10 km	SMF	No	Supported	Supported <sup>2</sup>
<b>GLC-SX-MM-RGD</b>	1000BASE-SX	GE	IND	220-550 m	MMF	Yes	Supported	Supported
<b>GLC-LX-SM-RGD</b>	1000BASE-LX/LH	GE	IND	550 m / 10 km	MMF / SMF	Yes	Supported	Supported
<b>GLC-ZX-SM-RGD</b>	1000BASE-ZX	GE	IND	70 km	SMF	Yes	Supported	Supported
<b>SFP-GE-S</b>	1000BASE-SX	GE	EXT	220-550 m	MMF	Yes	Supported	Supported
<b>SFP-GE-L</b>	1000BASE-LX/LH	GE	EXT	550 m / 10 km	MMF / SMF	Yes	Supported	-
<b>SFP-GE-Z</b>	1000BASE-ZX	GE	EXT	70 km	SMF	Yes	Supported	-
<b>GLC-BX-U</b>	1000BASE-BX10	GE	COM	10 km	SMF	Yes	Supported	Supported
<b>GLC-BX-D</b>	1000BASE-BX10	GE	COM	10 km	SMF	Yes	Supported	Supported

Part number	Specifications	SFP type	Temperature range <sup>1</sup>	Maximum distance	Cable type	Dom support	Cisco IE-3300-8T2S Cisco IE-3300-8P2S	Cisco IE-3300-8T2X Cisco IE-3300-8U2X
GLC-SX-MM	1000BASE-SX	GE	COM	220-550 m	MMF	Yes	Supported	Supported
GLC-LH-SM	1000BASE-LX/LH	GE	COM	550 m / 10 km	MMF / SMF	Yes	Supported	-
GLC-ZX-SM	1000BASE-ZX	GE	COM	70 km	SMF	Yes	Supported	-
GLC-EX-SMD	1000BASE-EX	GE	COM	40 km	SMF	Yes	Supported	Supported
GLC-TE	1000BASE-T	GE	EXT	100 m	Cat5e	No	Supported	Supported
GLC-BX40-U-I=	1000BASE-BX40	GE	IND	40km	SMF	Yes	Supported	Supported
GLC-BX40-D-I=	1000BASE-BX40	GE	IND	40km	SMF	Yes	Supported	Supported
GLC-BX40-DA-I=	1000BASE-BX40	GE	IND	40km	SMF	Yes	Supported	Supported
GLC-BX80-U-I=	1000BASE-BX80	GE	IND	80km	SMF	Yes	Supported	Supported
GLC-BX80-D-I=	1000BASE-BX80	GE	IND	80km	SMF	Yes	Supported	Supported
GLC-SX-MMD=	1000BASE-SX	GE	EXT	550m	MMF	Yes	Supported	Supported
GLC-LH-SMD=	1000BASE-LX/LH	GE	EXT	550m/10k m	MMF/SMF	Yes	Supported	Supported
GLC-ZX-SMD=	1000BASE-ZX	GE	EXT	70km	SMF	Yes	Supported	Supported
GLC-T-RGD=	1000BASE-T	GE	IND	100m	Copper	NA	Supported	Supported
SFP-10G-LR-X	10GBASE-LR	10GE	EXT	10km	SMF	Yes	Not Applicable	Supported
SFP-10G-SR	10GBASE-SR	10GE	COM	400m	MMF	Yes		Supported
SFP-10G-LR	10GBASE-LR	10GE	COM	10km	SMF	Yes		Supported
SFP-10G-ER	10GBASE-ER	10GE	COM	40km	SMF	Yes		Supported
SFP-10G-BXD-I	10GBASE-BX10	10GE	IND	10km	SMF	Yes		Supported
SFP-10G-BXU-I	10GBASE-BX10	10GE	IND	10km	SMF	Yes		Supported

Part number	Specifications	SFP type	Temperature range <sup>1</sup>	Maximum distance	Cable type	Dom support	Cisco IE-3300-8T2S Cisco IE-3300-8P2S	Cisco IE-3300-8T2X Cisco IE-3300-8U2X
<b>SFP-10G-BX40D-I</b>	10GBASE-BX40	10GE	IND	40km	SMF	Yes		Supported
<b>SFP-10G-BX40U-I</b>	10GBASE-BX40	10GE	IND	40km	SMF	Yes		Supported
<b>SFP-H10G-CUxM</b>	10G Passive Twinax	10GE	COM	1m/3m/5m	Twinax	NA		Supported
<b>SFP_10G_ZR</b>	10GBASE-ZR	10GE	COM	80km	SMF	Yes		Supported

<sup>1</sup> If non-industrial SFPs (EXT, COM) are used, the switch operating temperature must be derated.

<sup>2</sup> Supported only on Expansion modules with SFP downlink port option when paired with IE 3300 10G Uplinks Variants.

## Ordering information

Table 18 lists the ordering information for fixed system, expansion modules and memory that are commonly used with the Cisco Catalyst IE3300 switches.

**Table 18.** Ordering information

Product ID detail	Description
<b>IE-3300-8T2S-E</b>	Catalyst IE3300 with 8 GE Copper and 2 GE SFP, Modular, Network Essentials
<b>IE-3300-8P2S-E</b>	Catalyst IE3300 with 8 GE PoE+ and 2 GE SFP, Modular, Network Essentials
<b>IE-3300-8T2S-A</b>	Catalyst IE3300 with 8 GE Copper and 2 GE SFP, Modular, Network Advantage
<b>IE-3300-8P2S-A</b>	Catalyst IE3300 with 8 GE PoE/PoE+ and 2 GE SFP, Modular, Network Advantage
<b>IE-3300-8T2X-E</b>	Catalyst IE3300 with 8 GE Copper and 2 10G SFP, Modular, Network Essentials
<b>IE-3300-8T2X-A</b>	Catalyst IE3300 with 8 GE Copper and 2 10G SFP, Modular, Network Advantage
<b>IE-3300-8U2X-E<sup>1</sup></b>	Catalyst IE3300 with 8 GE Copper (4PPoE) and 2 10G SFP, Modular, Network Essentials
<b>IE-3300-8U2X-A<sup>1</sup></b>	Catalyst IE3300 with 8 GE Copper (4PPoE) and 2 10G SFP, Modular, Network Advantage
<b>IEM-3300-4MU<sup>1</sup></b>	Catalyst IE3300 with 4 2.5G Copper (4PPoE), Expansion Module
<b>IEM-3300-8T</b>	Catalyst IE3300 with 8 GE Copper ports, Expansion Module
<b>IEM-3300-8P</b>	Catalyst IE3300 w/ 8 GE PoE/PoE+ Copper ports, Expansion Module
<b>IEM-3300-8S</b>	Catalyst IE3300 with 8 GE SFP ports, Expansion Module
<b>IEM-3300-16T</b>	Catalyst IE3300 with 16 GE Copper ports, Expansion Module

Product ID detail	Description
<b>IEM-3300-16P</b>	Catalyst IE3300 with 16 GE PoE/PoE+ Copper, Expansion Module
<b>IEM-3300-6T2S</b>	Catalyst IE3300 with 6GE Copper + 2GE SFP, Expansion Module
<b>IEM-3300-14T2S</b>	Catalyst IE3300 with 14GE Copper + 2GE SFP, Expansion Module
<b>SD-IE-4GB=</b>	IE 4GB SD memory card for IE
<b>STK-RACK-DINRAIL=</b>	19" DIN Rail mount kit
<b>IE3300-NW-A=</b>	Network Advantage License for IE3300, Perpetual
<b>IE3300-DNA-E</b>	Cisco DNA Essentials license for IE3300 Series
<b>IE3300-DNA-E-3Y</b>	IE 3300 Cisco DNA Essentials, 3 Year Term license
<b>IE3300-DNA-E-5Y</b>	IE 3300 Cisco DNA Essentials, 5 Year Term license
<b>IE3300-DNA-A</b>	Cisco DNA Advantage license for IE3300 Series
<b>IE3300-DNA-A-3Y</b>	IE 3300 Cisco DNA Advantage, 3 Year Term license
<b>IE3300-DNA-A-5Y</b>	IE 3300 Cisco DNA Advantage, 5 Year Term license
<b>LIC-MRP-MGR-XE=</b>	MRP Ring Manager License
<b>LIC-MRP-CLIENT-XE=</b>	MRP Ring Client License

<sup>1</sup> Orderability currently planned for January, 2021.

## Warranty

Five-year limited HW warranty on all IE3300 PIDs and all IE Power Supplies ([see table 10 above](#)) See link below for more details on warranty <https://www.cisco.com/c/en/us/products/warranties/warranty-doc-c99-740591.html>.

# Cisco environmental sustainability

Information about Cisco’s environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the “Environment Sustainability” section of Cisco’s [Corporate Social Responsibility](#) (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the “Environment Sustainability” section of the CSR Report) are provided in the following table:

Sustainability topic	Reference
Information on product material content laws and regulations	<a href="#">Materials</a>
Information on electronic waste laws and regulations, including products, batteries, and packaging	<a href="#">WEEE compliance</a>

Cisco makes the packaging data available for informational purposes only. It may not reflect the most current legal developments, and Cisco does not represent, warrant, or guarantee that it is complete, accurate, or up to date. This information is subject to change without notice.

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## Document history

New or Revised Topic	Described In	Date
Updated DNA license information to indicate that DNA Essentials license includes Cisco DNA assurance, Device 360"	<a href="#">Table 13</a>	01/04/2021
Added IEC 60068-2-6 (vibration-sinusoidal, 5Hz-150Hz); added clarification that Network Essentials is included in Network Advantage	<a href="#">Tables 2, 3, 12, 14</a> and <a href="#">18</a>	11/18/2020
Added measures in metric system; updated name of standard: EN 61000-4-10 Damped Oscillatory Magnetic Field (100 A/m) & removed "test in progress" from IEEE 1613 & EN/IEC 61850-3	<a href="#">Table 6</a> and <a href="#">Table 14</a>	10/06/2020
Updated whole document to include information on new PIDs: IE-3300-8T2X; IE-3300-8U2X & IEM-3300-4MU=	Introduction, System Dimensions and Tables 1, 3, 4, 5, 6, 7, 8, 9, 11, 14, 15, 17, 18	07/08/2020
Updated hardware configurations	<a href="#">Table 3</a>	12/17/2019
Updated power specifications and power consumption	<a href="#">Table 8</a> and <a href="#">Table 9</a>	12/17/2019
Added PWR-IE50W-AC-IEC= to Power Supply Options; Added details on IPv6 support and PROFINET support on key supported software features	<a href="#">Table 10</a> and <a href="#">Table 11</a>	12/17/2019
Updated key supported software features: IP protocols, IP Multicast	<a href="#">Table 12</a>	12/17/2019
Updated Management and Standards: RFC 5460 and SNMP MIB objects	<a href="#">Table 16</a>	12/17/2019
Added new part numbers on SFP support	<a href="#">Table 17</a>	12/17/2019
Fixed descriptions on product description in ordering information	<a href="#">Table 18</a>	12/17/2019

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