



# Technical Specifications

[Table A-1](#) lists the operating temperatures for the Cisco IE 3000 switches, expansion modules, and power convertor. [Table A-2](#) lists the technical specifications for the switches and modules. [Table A-3](#) lists the technical specifications for the Cisco IE 3000 switch power convertor.

The operating temperature for the Cisco IE 3000 switches, expansion modules, and the power convertor varies among environments, based on factors such as the system configuration and enclosure types. [Table A-1](#) describes three different environments and the operating temperature for each of the environments.

**Table A-1** *Operating Temperature for the Cisco IE 3000 Switches and Power Convertor*

	<b>Industrial Automation and Hazardous Locations</b>	<b>Substation</b>	<b>Traffic Signal</b>
Enclosure types	Sealed enclosures For example: NEMA4, NEMA4X, NEMA12, NEMA13, IP54, and IP66.	Vented enclosures For example: NEMA1, IP20, and IP21.	Fan or blower-equipped enclosures For example: NEMA TS-2. <b>Note</b> The minimum airflow is 150 lfm <sup>1</sup> .

1. lfm = linear feet per minute.



**Note**

The safety certifications apply only to ambient temperatures under 140°F (60°C). However, the Cisco IE 3000 switch can function in the substation and traffic signal installations under the environmental conditions shown in [Table A-1](#).

Table A-2 Cisco IE 3000 Series Technical Specifications

<b>Environmental Ranges</b>	
Operating temperature <sup>1</sup>	-40C to +74C <ul style="list-style-type: none"> <li>-40C to +70C (Vented Enclosure Operating)</li> <li>-40C to +60C (Sealed Enclosure Operating)</li> <li>-34C to +74C (100LFM or more Fan or Blower equipped Enclosure Operating)</li> <li>-40C to +85C (Type Tested to +85C for 16 hours)<sup>2</sup></li> </ul>
Storage temperature	-40 to 185°F (-40 to 85°C)
Operating humidity	5 to 95% (noncondensing)
Operating shock	20 g at 11 ms
Operating altitude	Up to 13,000 ft (3962 m)
Storage altitude	Up to 40,000 ft (12,192 m)
<b>Power Requirements</b>	
DC input voltage	Cisco IE-3000-8TC and Cisco IE-3000-4TC: <ul style="list-style-type: none"> <li>Range: 18 to 60 VDC</li> <li>Nominal: 24 or 48 VDC</li> <li>The DC-input power supply is an SELV circuit, and it can only be connected to another SELV circuit.</li> <li>Switch models with PoE capability require an additional power input connection to power the PoE ports. This connection requires 48/54 VDC @2.4A. <ul style="list-style-type: none"> <li>PoE mode: 48VDC (nominal)/44-57 VDC (absolute range)</li> <li>PoE mode: 54VDC (nominal)/50-57 VDC (absolute range)</li> </ul> </li> </ul>
	Cisco IEM-3000-4PC and IEM-3000-4PC-4TC <ul style="list-style-type: none"> <li>48/54 VDC (nominal), 44/57 VDC (maximum)</li> </ul> <p><b>Note</b> PoE expansion modules receive power from a separate power supply or from site DC power.</p>
Maximum DC input current	Cisco IE-3000-8TC and Cisco IE-3000-4TC <ul style="list-style-type: none"> <li>1 A @ 48 VDC</li> <li>2 A @ 24 VDC</li> </ul>
	IEM-3000-4PC and IEM-3000-4PC-4TC: 2.4 A <p><b>Note</b> PoE expansion modules receive power from a separate power supply or from site DC power.</p>

**Table A-2 Cisco IE 3000 Series Technical Specifications (continued)**

Max power consumption	<ul style="list-style-type: none"> <li>• Cisco IE-3000-4TC, Cisco IE-3000-4TC-E —15.1 W</li> <li>• Cisco IE-3000-8TC, Cisco IE-3000-8TC-E —15.7 W</li> <li>• Cisco IEM-3000-8TM—2.8 W</li> <li>• Cisco IEM-3000-8FM—10.1 W</li> <li>• Cisco IEM-3000-4SM—7.6 W</li> <li>• Cisco IEM-3000-8SM—12.2 W</li> <li>• Cisco IEM-3000-4PC—7.3 W*</li> <li>• Cisco IEM-3000-4PC-4TC—7.9 W*</li> </ul> <p>* Does not include POE power consumption</p>
<b>Physical Dimensions</b>	
Weight	<ul style="list-style-type: none"> <li>• Cisco IE-3000-8TC: 4.4 lb (2 kg)</li> <li>• Cisco IE-3000-4TC: 4.4 lb (2 kg)</li> <li>• Cisco IEM-3000-8FM 3.2 lb (1.45 kg)</li> <li>• Cisco IEM-3000-8TM 2.05 lb (0.93 kg)</li> <li>• Cisco IEM-3000-4SM 2.5 lb (1.14 kg)</li> <li>• Cisco IEM-3000-8SM 3.04 lb (1.38 kg)</li> <li>• Cisco IEM-3000-4PC 2.4 lb (1.08 kg)</li> <li>• Cisco IEM-3000-4PC-4TC 2.6 lb (1.16 kg)</li> </ul>
Dimensions (W x D x H)	<p>Cisco IE-3000-8TC and Cisco IE-3000-4TC: 6 x 4.4 x 5.8 in. (15.4 x 11.2 x 14.7 cm)</p> <p>Cisco IEM-3000-8TM, IEM-3000-8FM, IEM-3000-4SM, IEM-3000-8SM, IEM-3000-4PC, and IEM-3000-4PC-4TC: 3.6 x 4.4 x 5.8 in. (9.1 x 11.2 x 14.7 cm)</p> <p><b>Note</b> Width includes the cosmetic end-caps. Height does not include the panel mount brackets. Depth is the distance from the rail.</p>

1. Operating temperatures exceeding 60C are not covered by the product safety certifications and approvals. However, the switch can function in the installations under the environmental conditions listed.
2. The maximum operating temperature of the switch varies depending on the type of SFP module that you use.

**Note**

The technical specifications listed in Table A-2 for the Cisco IE-3000-8TC and IE-3000-4TC switches also apply to the Cisco IE-3000-8TC-E and Cisco IE-3000-4TC-E switches.

**Table A-3** Technical Specifications for the Power Converter and AC-Input Power Supplies

<b>Environmental Ranges</b>	
Operating temperature	-29 to 165°F (-34 to 74°C)
Storage temperature	-40 to 185°F (-40 to 85°C)
Operating altitude	Up to 13,000 ft (3962 m)
Storage altitude	Up to 40,000 ft (12,192 m)
Thermal spacing	3.54 in. (90 mm) exposed side 4.13 in. (105 mm) top and bottom
<b>Power Requirements</b>	
AC input voltages	Range: 85–264 VAC at 47–63 Hz Nominal: 115 VAC at 60 Hz or 230 VAC at 50 Hz
Maximum AC power input current	0.75 A @ 230 VAC and 50 Hz or 1.25 A @ 115 VAC and 60 Hz
DC input voltages	Range: 88-300VDC Nominal: 125 VDC or 250 VDC
Maximum DC input current	0.75 A at 220 VDC or 1.25 A at 150 VDC
DC output voltage	+24 VDC
DC output current	2.1 A (max)
Hold-up time	Minimum 20 ms at full load and 115 VAC
<b>Physical Dimensions</b>	
Weight	1.4 lb (0.63 kg)
Dimensions (W x D x H)	2 x 4.62 x 5.81 in. (50.8 x 117.5 x 147.6 mm) <b>Note</b> Width includes the cosmetic end-caps. Height does not include the panel mount brackets. Depth is the distance from the rail.

**Table A-4** Hazardous Locations Standards

<b>Specification</b>	<b>Standards</b>
Hazardous Locations	ANSI/ISA 12.12.01-2011 UL 60079-0, 5th Ed, 2009-10-21 IEC 60079-15, 3rd Ed, 2009-7-17 CSA C22.2 No. 213-M1987 CAN/CSA E60079-15: 02 EN 60079-0:2009 EN 60079-15:2010 IEC 60079-0 4th Edition IEC 60079-15 5th Edition