

# Stratix Ethernet Device Specifications

Stratix 5700 Catalog Numbers 1783-BMS4S2SGL, 783-BMS4S2SGA, 1783-BMS06SL, 1783-BMS06SA, 1783-BMS06TL, 1783-BMS06TA, 1783-BMS06SGL, 1783-BMS06SGA, 1783-BMS06TGL, 1783-BMS06TGA, 1783-BMS10CL, 1783-BMS10CA, 1783-BMS10CGL, 1783-BMS10CGA, 1783-BMS10CGP, 1783-BMS10CGN, 1783-BMS12T4E2CGL, 1783-BMS12T4E2CGP, 1783-BMS12T4E2CGNK, 1783-BMS20CL, 1783-BMS20CA, 1783-BMS20CGL, 1783-BMS20CGP, 1783-BMS20CGN, 1783-BMS20CGPK

ArmorStratix 5700 Catalog Numbers 1783-ZMS8TA, 1783-ZMS16TA, 1783-ZMS24TA, 1783-ZMS4T4E2TGP, 1783-ZMS8T8E2TGP

Stratix 8000 and Stratix 8300 Catalog Numbers 1783-MS06T, 1783-MS10T, 1783-RMS06T, 1783-RMS10T, 1783-MX04E, 1783-MX04T04E, 1783-MX04S, 1783-MX08S, 1783-MX08T, 1783-MX08F

Stratix 6000 Catalog Numbers 1783-EMS08T, 1783-EMS04T

Embedded Switch Technology Catalog Numbers 1783-ETAP, 1783-ETAP1F, 1783-ETAP2F

Stratix 2000 Catalog Numbers 1783-US4T1F, 1783-US4T1H, 1783-US5T, 1784-US5TG, 1783-US6T2F, 1783-US6T2H, 1783-US6TG2CG, 1783-US7T1F, 1783-US7T1H, 1783-US8T, 1783-US14T2S, 1783-US16T

Stratix 5100 Catalog Numbers 1783-WAPAK9, 1783-WAPEK9, 1783-WAPZK9, 1783-WAPCK9

Stratix 5900 Catalog Number 1783-SR

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## Summary of Changes

This manual contains new and updated information. Changes throughout this revision are marked by change bars, as shown to the left of this paragraph.

Topic	Page
Addition of Stratix 2000™ switches (cat. nos. 1783-US4T1F, 1783-US4T1H, 1784-US5TG, 1783-US6T2F, 1783-US6T2H, 1783-US6TG2CG, 1783-US7T1F, 1783-US7T1H, 1783-US14T2S, 1783-US16T).	30
Certification for the Stratix 5100 Wireless Access Point/Workgroup Bridge (cat. no. 1783-WAPCK9 China)	36

## Stratix 5700 Ethernet Managed Switches

Cat. No.	Total Ports	RJ45 Ports <sup>(1)</sup>	Combo Ports	Power Over Ethernet Ports (PoE/PoE+)	SFP Slots	Software Type	CIP Sync (IEEE 1588)	NAT	Conformal Coating
1783-BMS4S2SGL	6	—	—	—	4 FE + 2 GE	Lite	—	—	—
1783-BMS4S2SGA	6	—	—	—	4 FE + 2 GE	Full	—	—	—
1783-BMS06SL	6	4 FE	—	—	2 FE	Lite	—	—	—
1783-BMS06SA	6	4 FE	—	—	2 FE	Full	—	—	—
1783-BMS06TL	6	6 FE	—	—	—	Lite	—	—	—
1783-BMS06TA	6	6 FE	—	—	—	Full	—	—	—
1783-BMS06SGL	6	4 FE	—	—	2 GE	Lite	—	—	—
1783-BMS06SGA	6	4 FE	—	—	2 GE	Full	—	—	—
1783-BMS06TGL	6	4FE + 2 GE	—	—	—	Lite	—	—	—
1783-BMS06TGA	6	4 FE + 2 GE	—	—	—	Full	—	—	—
1783-BMS10CL	10	8 FE	2 FE	—	—	Lite	—	—	—
1783-BMS10CA	10	8 FE	2 FE	—	—	Full	—	—	—
1783-BMS10CGL	10	8 FE	2 GE	—	—	Lite	—	—	—
1783-BMS10CGA	10	8 FE	2 GE	—	—	Full	—	—	—
1783-BMS10CGP	10	8 FE	2 GE	—	—	Full	Yes	—	—
1783-BMS10CGN	10	8 FE	2 GE	—	—	Full	Yes	Yes	—
1783-BMS12T4E2CGL	18	12 FE	2 GE	4 FE	—	Lite	—	—	—
1783-BMS12T4E2CGP	18	12 FE	2 GE	4 FE	—	Full	Yes	—	—
1783-BMS12T4E2CGNK	18	12 FE	2 GE	4 FE	—	Full	Yes	Yes	Yes
1783-BMS20CL	20	16 FE	2 FE	—	2 FE	Lite	—	—	—
1783-BMS20CA	20	16 FE	2 FE	—	2 FE	Full	—	—	—
1783-BMS20CGL	20	16 FE	2 GE	—	2 FE	Lite	—	—	—
1783-BMS20CGP	20	16 FE	2 GE	—	2 FE	Full	Yes	—	—
1783-BMS20CGN	20	16 FE	2 GE	—	2 FE	Full	Yes	Yes	—
1783-BMS20CGPK	20	16 FE	2 GE	—	2 FE	Full	Yes	—	Yes

(1) FE = Fast Ethernet; GE = Gigabit Ethernet.

## Technical Specifications - Stratix 5700 Switches

Attribute	1783-BMS06SL, 1783-BMS06SA, 1783-BMS06TL, 1783-BMS06TA, 1783-BMS06SGL, 1783-BMS06SGA, 1783-BMS06TGL, 1783-BMS06TGA	1783-BMS10CL, 1783-BMS10CA, 1783-BMS10CGL, 1783-BMS10CGA	1783-BMS10CGN, 1783-BMS10CGP	1783-BMS20CL, 1783-BMS20CA, 1783-BMS20CGL, 1783-BMS20CGP, 1783-BMS20CGN, 1783-BMS20CGPK	1783-BMS4S2SGL, 1783-BMS4S2SGA
Alarm relay ratings	1 A @ 30V DC or 0.5 A @ 48V DC				
Power requirements	0.5...2.0 A max @ 12...48V DC Class 2/SELV			0.5...3.0 A max @ 12...48V DC Class 2/SELV	0.5...2.0 A max @ 12...48V DC Class 2/SELV
Power consumption	9.5 W @ 24V DC @ 40 °C (104 °F) 15 W max	12.5 W @ 24V DC/40 °C (104 °F) 17 W max	15 W @ 24V DC/40 °C (104 °F) 20 W max	21 W @ 24V DC/40 °C (104 °F) 30 W max	12.5 W @ 24V DC/40 °C (104 °F) 14 W max
Isolation voltage	50V (continuous), basic insulation type, DC power ports to ground, DC power ports to Ethernet ports, and DC power ports to alarm ports No isolation between individual Ethernet ports No isolation between console port and system Type tested at 850V DC for 60 s			60V (continuous), basic insulation type, DC power ports to ground, alarm ports to ground, and DC power ports to alarm ports No isolation between console port and system Type tested at 707V DC for 60 s	
Ethernet connection <sup>(1)</sup>	RJ45 connector according to IEC 60603-7, 2- or 4-pair Category 5e minimum cable according to TIA 568-B.1 or Category 5 cable according to ISO/IEC 24702				—
DC power connection	0.5...0.8 mm <sup>2</sup> (20...18 AWG) solid or stranded copper wire rated at 75 °C (167 °F) or greater, 1.2 mm (3/64 in.) insulation max, 6.3 mm (0.25 in.) ±0.5 mm (0.02 in.) strip length				
Alarm connection	0.5...0.8 mm <sup>2</sup> (20...18 AWG) solid or stranded, UL/CSA-rated style 1007 or 1569 twisted-pair copper appliance wiring material (AWM) wire, 6.3 mm (0.25 in.) ±0.5 mm (0.02 in.) strip length				
Ground connection	4.0 mm <sup>2</sup> (12 AWG) min, stranded copper wire				
SFP modules <sup>(2)</sup>	<ul style="list-style-type: none"> <li>• 1783-SFP100FX</li> <li>• 1783-SFP1GSX</li> <li>• 1783-SFP100LX</li> <li>• 1783-SFP1GLX</li> </ul>				
Memory card	1784-SD1				
Torque	0.23 N•m (2.0 lb•in) on power and alarm connectors 0.96 N•m (8.5 lb•in) max on ground terminals			0.23 N•m (2.0 lb•in) on power and alarm connectors 0.4 N•m (3.5 lb•in) max on ground terminals	
Weight, approx	1.11 kg (2.45 lb)	1.25 kg (2.75 lb)	1.38 kg (3.05 lb)	2.04 kg (4.50 lb)	1.22 kg (2.69 lb)
Wiring category <sup>(3)</sup>	3 - on console and alarm ports 2 - on DC power ports 2 - on Ethernet ports				3 - on console ports 2 - on DC power and alarm ports
Enclosure type rating	None (open-style)				
Pilot duty rating	Alarm not rated				
North American temp code	T4				
IEC temp code	T4				

(1) See [page 41](#) for recommended products.

(2) SFP modules supported only on switches with combo ports or SFP slots.

(3) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

## Environmental Specifications - Stratix 5700 Switches

Attribute	1783-BMS06SL, 1783-BMS06SA, 1783-BMS06TL, 1783-BMS06TA, 1783-BMS06SGL, 1783-BMS06SGA, 1783-BMS06TGL, 1783-BMS06TGA, 1783-BMS10CL, 1783-BMS10CA, 1783-BMS10CGL, 1783-BMS10CGA, 1783-BMS10CGN, 1783-BMS10CGP, 1783-BMS20CL, 1783-BMS20CA, 1783-BMS20CGL, 1783-BMS20CGP, 1783-BMS20CGN, 1783-BMS20CGPK	1783-BMS4S2SGL, 1783-BMS4S2SGA
Temperature, operating IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	-40...60 °C (-40...140 °F)	
Temperature, surrounding air, max	60 °C (140 °F)	
Temperature, nonoperating IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock)	-40...85 °C (-40...185 °F)	
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	5...95% noncondensing	
Vibration IEC 60068-2-6 (Test Fc, Operating)	2 g @ 10...500 Hz	
Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	30 g	
Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	55 g	50 g
Emissions CISPR11 (IEC 61000-6-4)	Class A	
ESD immunity IEC 61000-4-2	8 kV contact discharges 15 kV air discharges	6 kV contact discharges 8 kV air discharges
Radiated RF immunity IEC 61000-4-3	20V/m with 1 kHz sine-wave 80% AM from 80...1000 MHz 20V/m with 200 Hz 50% pulse 100% AM at 900 MHz 10V/m with 1 kHz sine-wave 80% AM from 1000...2700 MHz	20V/m with 1 kHz sine-wave 80% AM from 80...2000 MHz 10V/m with 200 Hz 50% pulse 100% AM at 900 MHz 10V/m with 200 Hz 50% pulse 100% AM at 1890 MHz 20V/m with 1 kHz sine-wave 80% AM from 2000...2700 MHz
EFT/B immunity IEC 61000-4-4	±4 kV at 5 kHz and ±2 kV at 100 kHz on DC power ports ±4 kV at 2.5 kHz, ±2 kV at 5 kHz, and ±1 kV at 100 kHz on alarm ports ±4 kV at 2.5 kHz, ±2 kV at 5 kHz, and ±1 kV at 100 kHz on Ethernet ports	±4 kV at 2.5, 5, and 100 kHz on DC power ports ±4 kV at 2.5, 5, and 100 kHz on alarm ports
Surge transient immunity IEC 61000-4-5	±1 kV line-line (DM) and ±2 kV line-earth (CM) on DC power ports ±2 kV line-earth (CM) on Ethernet ports	±1 kV line-line (DM) and ±2 kV line-earth (CM) on DC power ports ±1 kV line-line (DM) and ±2 kV line-earth (CM) on alarm ports

**Environmental Specifications - Stratix 5700 Switches (Continued)**

Attribute	1783-BMS06SL, 1783-BMS06SA, 1783-BMS06TL, 1783-BMS06TA, 1783-BMS06SGL, 1783-BMS06SGA, 1783-BMS06TGL, 1783-BMS06TGA, 1783-BMS10CL, 1783-BMS10CA, 1783-BMS10CGL, 1783-BMS10CGA, 1783-BMS10CGN, 1783-BMS10CGP, 1783-BMS20CL, 1783-BMS20CA, 1783-BMS20CGL, 1783-BMS20CGP, 1783-BMS20CGN, 1783-BMS20CGPK	1783-BMS4S2SGL, 1783-BMS4S2SGA
Conducted RF immunity IEC 61000-4-6	10V rms with 1 kHz sine-wave 80% AM from 150 kHz. . . 80 MHz	
Voltage variation IEC 61000-4-29	10 ms interruption on DC power ports	
Damped oscillatory wave immunity IEC 61000-4-18	±1 kV line-line (DM) and ±2.5 kV line-earth (CM) on power ports	±1 kV line-line (DM) and ±2.5 kV line-earth (CM) on DC power ports at 1 MHz and 100 kHz ±1 kV line-line (DM) and ±2.5 kV line-earth (CM) on alarm ports at 1 MHz and 100 kHz

**Stratix 5700 Power over Ethernet Switches****Technical Specifications - Stratix 5700 Power over Ethernet Switches**

Attribute	1783-BMS12T4E2CGL, 1783-BMS12T4E2CGP, 1783-BMS12T4E2CGNK
Ethernet data rate	10/100 Mbps
Alarm relay ratings	30V DC, 1 A or 48V DC, 0.5 A
Power requirements	12...48V DC, 0.5...3.0 A max Class 2/SELV
Power over Ethernet input power	48V DC for PoE 54V DC for PoE+ or a combination of PoE and PoE+
Power consumption	15 W @ 24V DC 40 °C (104 °F) 20 W max
Isolation voltage	60V (continuous), basic insulation type, DC power ports to ground, and PoE power ports to ground No isolation between individual Ethernet ports No isolation between PoE power and Ethernet ports No isolation between console port and system Type tested at 1585V DC for 60 s
Ethernet connections <sup>(1)</sup>	RJ45 connector according to IEC 60603-7, 2- or 4-pair Category 5e minimum cable according to TIA 568-B.1 or Category 5 cable according to ISO/IEC 24702
DC power connections	0.5...0.8 mm <sup>2</sup> (20...18 AWG) solid or stranded copper wire rated at 75 °C (167 °F) or greater, 1.2 mm (3/64 in.) insulation max, 6.3 mm (0.25 in.) ±0.5 mm (0.02 in.) strip length
Alarm connections	0.5...0.8 mm <sup>2</sup> (20...18 AWG) solid or stranded, UL/CSA-rated style 1007 or 1569 twisted-pair copper appliance wiring material (AWM) wire, 6.3 mm (0.25 in.) ±0.5 mm (0.02 in.) strip length
Ground connection	4.0 mm <sup>2</sup> (12 AWG) min, stranded copper wire
SFP modules <sup>(2)</sup>	<ul style="list-style-type: none"> <li>• 1783-SFP100FX</li> <li>• 1783-SFP1GSX</li> <li>• 1783-SFP100LX</li> <li>• 1783-SFP1GLX</li> </ul>
Memory card	1784-SD1
Torque	0.23 N•m (2.0 lb•in) on power and alarm connectors 0.96 N•m (8.5 lb•in) max on ground terminals
Weight, approx	1.11 kg (2.45 lb)

**Technical Specifications - Stratix 5700 Power over Ethernet Switches (Continued)**

Attribute	1783-BMS12T4E2CGL, 1783-BMS12T4E2CGP, 1783-BMS12T4E2CGNK
Wiring category <sup>(3)</sup>	3 - on console and alarm ports 2 - on DC power ports 2 - on Ethernet ports
Pilot duty rating	Alarm not rated
Enclosure type rating	None (open-style)
North American temp code	T4
IEC temp code	T4

(1) See [page 41](#) for recommended products.

(2) SFP modules supported only on switches with combo ports or SFP slots.

(3) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

**Environmental Specifications - Stratix 5700 Power over Ethernet Switches**

Attribute	1783-BMS12T4E2CGL, 1783-BMS12T4E2CGP, 1783-BMS12T4E2CGNK
Temperature, operating IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	-40...60 °C (-40...140 °F)
Temperature, surrounding air, max	60 °C (140 °F)
Temperature, nonoperating IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock)	-40...85 °C (-40...185 °F)
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	5...95% noncondensing
Vibration IEC 60068-2-6 (Test Fc, Operating)	2 g @ 10...500 Hz
Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	30 g
Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	55 g
Emissions CISPR11 (IEC 61000-6-4)	Class A
ESD immunity IEC 61000-4-2	6 kV contact discharges 8 kV air discharges
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80...1000 MHz 10V/m with 200 Hz 50% pulse 100% AM at 900 MHz 10V/m with 200 Hz 50% pulse 100% AM at 1890 MHz 1V/m with 1 kHz sine-wave 80% AM from 1000...2700 MHz
EFT/B immunity IEC 61000-4-4	±4 kV at 5 kHz on DC power ports ±4 kV at 5 kHz on alarm ports ±4 kV at 5 kHz on Ethernet ports

**Environmental Specifications - Stratix 5700 Power over Ethernet Switches**

Attribute	1783-BMS12T4E2CGL, 1783-BMS12T4E2CGP, 1783-BMS12T4E2CGNK
Surge transient immunity IEC 61000-4-5	±1 kV line-line (DM) and ±2 kV line-earth (CM) on DC power ports ±2 kV line-earth (CM) on Ethernet ports
Conducted RF immunity IEC 61000-4-6	10V rms with 1 kHz sine-wave 80% AM from 150 kHz . . . 80 MHz
Damped oscillatory wave immunity IEC 61000-4-18	±1 kV line-line (DM) and ±2.5 kV line-earth (CM) on power ports

**Certifications - Stratix 5700 Switches**

Certifications (when product is marked) <sup>(1)</sup>	Stratix 5700 Switches
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E194810. UL Listed for Class I, Zone 2 Hazardous Locations, certified for U.S. and Canada. See UL File E194810. AEx/Ex nA nC IIC T4 Gc X
CE	European Union 2004/108/EC EMC Directive, compliant with: <ul style="list-style-type: none"> <li>EN 61326-1; Meas./Control/Lab., Industrial Requirements</li> <li>EN 61000-6-2; Industrial Immunity</li> <li>EN 61000-6-4; Industrial Emissions</li> <li>EN 61131-2; Programmable Controllers (Clause 8, Zone A &amp; B)</li> </ul> European Union 2011/65/EU RoHS, compliant with: <ul style="list-style-type: none"> <li>EN 50581; Technical Documentation</li> </ul>
C-Tick	Australian Radiocommunications Act, compliant with: <ul style="list-style-type: none"> <li>AS/NZS CISPR 11; Industrial Emissions</li> </ul>
Ex	European Union 94/9/EC ATEX Directive, compliant with: <ul style="list-style-type: none"> <li>EN 60079-15; Potentially Explosive Atmospheres, Protection "n"</li> <li>EN 60079-0; General Requirements II 3 G Ex nA nC IIC T4 Gc X</li> </ul>
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: <ul style="list-style-type: none"> <li>Article 58-2 of Radio Waves Act, Clause 3</li> </ul>
EtherNet/IP	ODVA conformance tested to EtherNet/IP specifications

(1) See the Product Certification link at <http://www.ab.com> for declarations of conformity, certificates, and other certification details.

## Dimensions—Stratix 5700 Switches

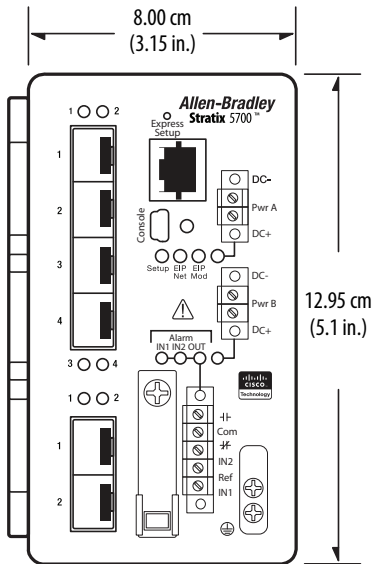
To prevent the switch from overheating, observe the following minimum clearances:

- Top and bottom: 50.8 mm (2.0 in.)
- Sides: 50.8 mm (2.0 in.)
- Front: 50.8 mm (2.0 in.)

These diagrams are representative of the Stratix 5700 switches. Actual faceplates vary depending on the catalog number.

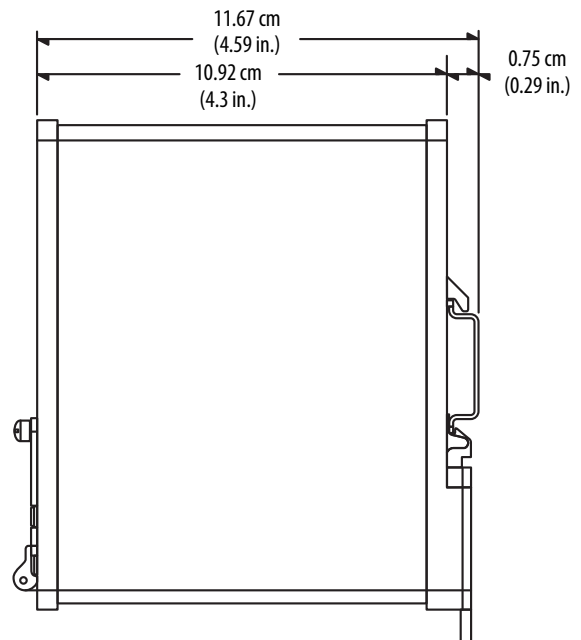
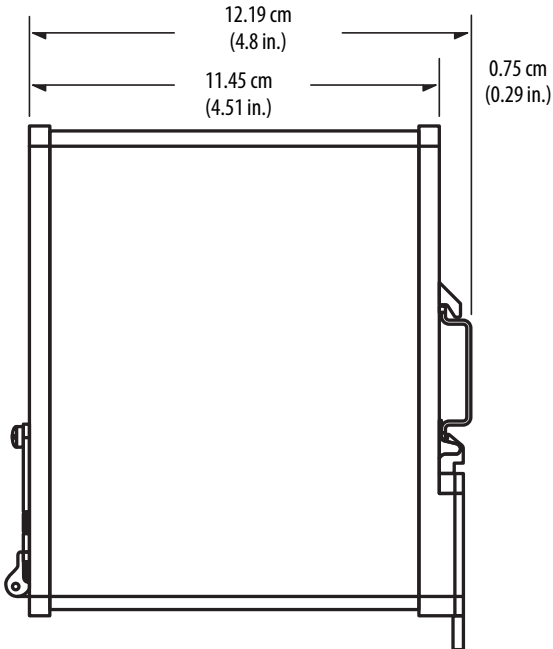
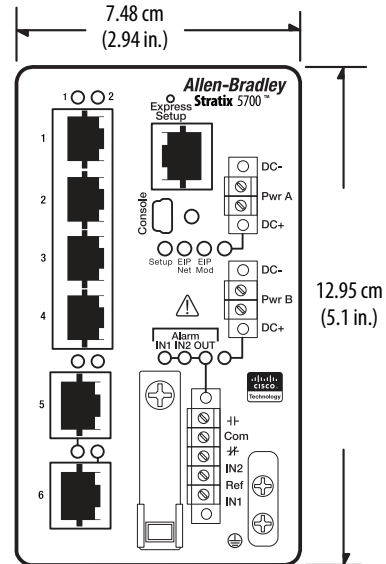
### 6 SFP-port Switches

1783-BMS4S2SGL, 1783-BMS4S2SGA



### 6-port Switches

1783-BMS06SL, 1783-BMS06SA, 1783-BMS06TL, 1783-BMS06TA,  
1783-BMS06SGL, 1783-BMS06SGA, 1783-BMS06TGL, 1783-BMS06TGA



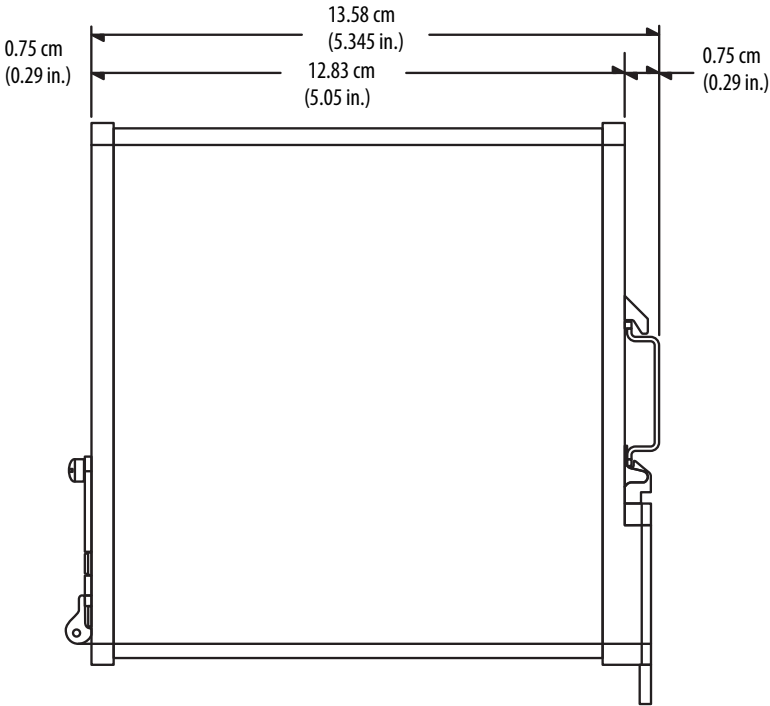
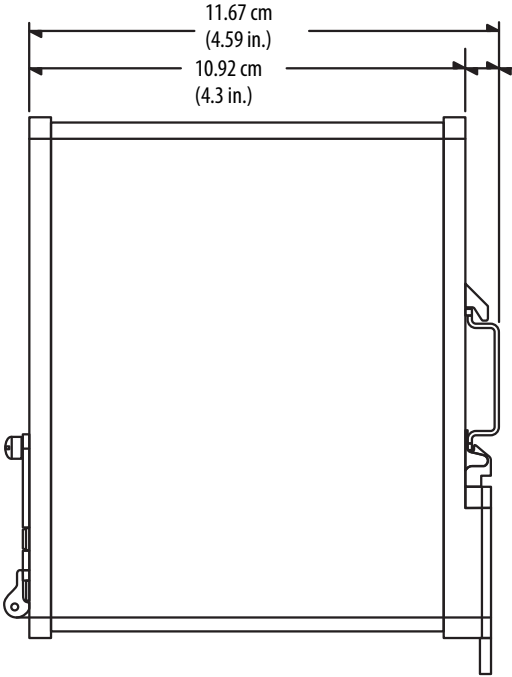
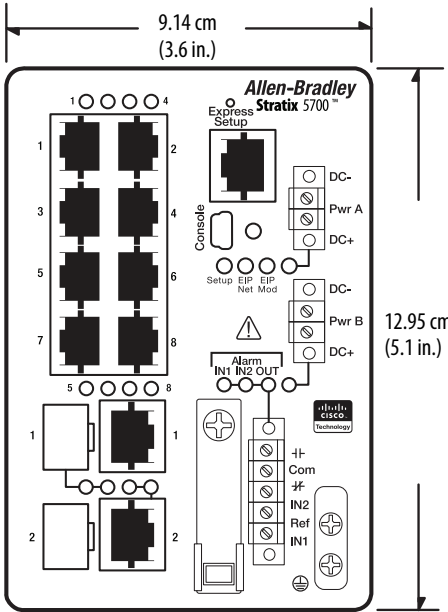
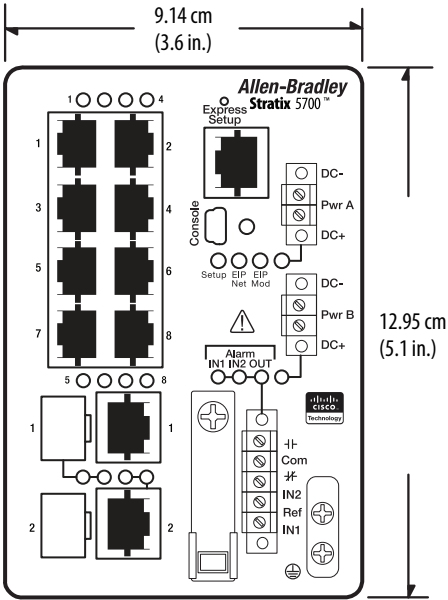


**10-port Switches**

1783-BMS10CL, 1783-BMS10CA,  
1783-BMS10CGL, 1783-BMS10CGA

**10-port Switch**

1783-BMS10CGP, 1783-BMS10CGN



**18- and 20-port Switches**

1783-BMS12T4E2CGNK, 1783-BMS12T4E2CGP, 1783-BMS12T4E2CGL,  
 1783-BMS20CL, 1783-BMS20CA, 1783-BMS20CGL, 1783-BMS20CGP,  
 1783-BMS20CGN, 1783-BMS20CGPK

