## Technical Data

## Stratix Ethernet Switch Specifications

Stratix 5700 Catalog Numbers 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-BMS20CL, 1783-BMS20CA, 1783-BMS20CGL, 1783-BMS20CGP, 1783-BMS20CGN, 1783-BMS20CGPK

Stratix 8000 and 8300 Catalog Numbers 1783-MS06T, 1783-MS10T, 1783-RMS06T, 1783-RMS10T, 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-US03T01F, 1783-US06T01F, 1783-US05T, 1783-US08T, 1783-US8T

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| Stratix 8000 and Stratix 8300 Ethernet Managed Switches | 8 |
| Stratix 6000 Ethernet Managed Switches | 15 |
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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.

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| :--- | :--- |
| Corrections to Stratix 5700 alarm relay ratings and power supply requirements | 3 |
| Addition of Stratix 8000 and Stratix 8300 expansion modules (cat. nos. 1783-MX04S, 1783-MX08S) | 8 |
| Addition of Stratix 2000 switch (cat. no. 1783-US8T) | 22 |

## Stratix 5700 Ethernet Managed Switches

| Cat. No. | Total Ports | RJ45 Ports ${ }^{(1)}$ | Combo Ports | SFP Slots | Software Type | CIP Sync (IEEE 1588) | NAT | Conformal Coating |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1783-BMS06SL | 6 | 4FE | - | 2 FE | Lite | - | - | - |
| 1783-BMS06SA | 6 | 4FE | - | 2 FE | Full | - | - | - |
| 1783-BMS06TL | 6 | 6 FE | - | - | Lite | - | - | - |
| 1783-BMS06TA | 6 | 6 FE | - | - | Full | - | - | - |
| 1783-BMS06SGL | 6 | 4FE | - | 2 GE | Lite | - | - | - |
| 1783-BM06SGA | 6 | 4FE | - | 2 GE | Full | - | - | - |
| 1783-BMS06TGL | 6 | $4 \mathrm{FE}+2 \mathrm{GE}$ | - | - | Lite | - | - | - |
| 1783-BMS06TGA | 6 | $4 \mathrm{FE}+2 \mathrm{GE}$ | - | - | 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-BMS20CL | 20 | 16 FE | 2 FE | 2 FE | Lite | - | - | - |
| 1783-BMS20CA | 20 | 16 FE | 2 FE | 2 FE | Full | - | - | - |
| 1783-BMS20CGL | 20 | 16FE | 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) $\mathrm{FE}=$ Fast Ethernet; $\mathrm{GE}=$ Gigabit Ethernet.

## Technical Specifications - Stratix 5700 Switches



## Environmental Specifications - Stratix 5700 Switches

| Attribute | Stratix 5700 Switches |
| :---: | :---: |
| Temperature, operating <br> 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) | $-40 \ldots 60^{\circ} \mathrm{C}\left(-40 \ldots 140^{\circ} \mathrm{F}\right)$ |
| Temperature, surrounding air, max | $60^{\circ} \mathrm{C}\left(140{ }^{\circ} \mathrm{F}\right)$ |
| 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) | $-40 \ldots 85^{\circ} \mathrm{C}\left(-40 \ldots 185^{\circ} \mathrm{F}\right)$ |
| Relative humidity <br> IEC 60068-2-30 (Test Db, Unpackaged Damp Heat) | 5...95\% noncondensing |
| Vibration <br> IEC 60068-2-6 (Test Fc, Operating) | $2 \mathrm{~g} @ 10 \ldots 500 \mathrm{~Hz}$ |
| Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 30 g |
| Shock, nonoperating <br> IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 55 g |
| Emissions <br> CISPR11 (IEC 61000-6-4) | Class A |
| ESD immunity IEC 61000-4-2 | 8 kV contact discharges 15 kV air discharges |
| Radiated RF immunity IEC 61000-4-3 | 20V/m with 1 kHz sine-wave $80 \%$ AM from $80 \ldots . .1000 \mathrm{MHz}$ <br> $20 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ pulse $100 \% \mathrm{AM}$ at 900 MHz <br> $10 \mathrm{~V} / \mathrm{m}$ with 1 kHz sine-wave $80 \% \mathrm{AM}$ from $1000 \ldots 2700 \mathrm{MHz}$ |
| EFT/B immunity IEC 61000-4-4 | $\pm 4 \mathrm{kV}$ at 5 kHz and $\pm 2 \mathrm{kV}$ at 100 kHz on DC power ports <br> $\pm 4 \mathrm{kV}$ at $2.5 \mathrm{kHz}, \pm 2 \mathrm{kV}$ at 5 kHz , and $\pm 1 \mathrm{kV}$ at 100 kHz on alarm ports <br> $\pm 4 \mathrm{kV}$ at $2.5 \mathrm{kHz}, \pm 2 \mathrm{kV}$ at 5 kHz , and $\pm 1 \mathrm{kV}$ at 100 kHz on Ethernet ports |
| Surge transient immunity IEC 61000-4-5 | $\pm 1 \mathrm{kV}$ line-line (DM) and $\pm 2 \mathrm{kV}$ line-earth (CM) on DC power ports $\pm 2 \mathrm{kV}$ line-earth (CM) on Ethernet ports |
| Conducted RF immunity IEC 61000-4-6 | 10 V rms with 1 kHz sine-wave $80 \% \mathrm{AM}$ from $150 \mathrm{kHz} \ldots 80 \mathrm{MHz}$ |
| Voltage variation IEC 61000-4-29 | 10 ms interruption on DC supply ports |
| Damped oscillatory wave immunity IEC 61000-4-18 | $\pm 1 \mathrm{kV}$ line-line (DM) and $\pm 2.5 \mathrm{kV}$ line-earth (CM) on power ports |

## Certifications - Stratix 5700 Switches

| Certifications (when product is <br> marked) | Stratix 5700 Switches |
| :--- | :--- |
| c-UL-us | UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. <br> UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E194810. |
| CE | European Union 2004/108/EC EMC Directive, compliant with: <br> - EN 61326-1; Meas./Control/Lab., Industrial Requirements <br> - EN 61000-6-2; Industrial Immunity <br> - EN 61000-6-4; Industrial Emissions <br> - EN 61131-2; Programmable Controllers (Clause 8, Zone A \& B) |
| C-Tick | Australian Radiocommunications Act, compliant with: <br> - AS/NZS CISPR 11; Industrial Emissions |
| Ex | European Union 94/9/EC ATEX Directive, compliant with: <br> - EN 60079-15; Potentially Explosive Atmospheres, Protection "n" <br> - EN 60079-0; General Requirements II 3 G Ex nA nC IIC T4X Gc |
| Korean | Korean Registration of Broadcasting and Communications Equipment, compliant with: <br> - Article 58-2 of Radio Waves Act, Clause 3 |
| 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: 105 mm (4.13 in.)
- Exposed side (not connected to the module): 90 mm (3.54 in.)
- Front: 65 mm (2.56 in.)

These diagrams are representative of the Stratix $5700^{m \times w}$ switches. Actual faceplates vary depending on the catalog number.

| 6-port Switches | 10-port Switches |
| :--- | :--- |
| (1783-BMS06SL, 1783-BMS06SA, 1783-BMS06TL, 1783-BMS06TA, | (1783-BMS10CL, 1783-BMS10CA, 1783-BMS10CGL, 1783-BMS10CGA) |
| 1783-BMS06SGL, 1783-BMS06SGA, 1783-BMS06TGL, |  |
| 1783-BMS06TGA) |  |



10-port Switches
(1783-BMS10CGP, 1783-BMS10CGN)


20-port Switches
(1783-BMS20CL, 1783-BMS20CA, 1783-BMS20CGL, 1783-BMS20CGP, 1783-BMS20CGN, 1783-BMS20CGPK)


## Stratix 8000 and Stratix 8300 Ethernet Managed Switches

Technical Specifications - Stratix 8000 and Stratix 8300 Switches

| Attribute | 1783-MS06T | 1783-MS10T | 1783-RMS06T | 1783-RMS10T |
| :---: | :---: | :---: | :---: | :---: |
| Description | Stratix $8000^{\text {TM }}$ managed switch, Layer 2 <br> - 6 ports | Stratix 8000 managed switch, Layer 2 <br> - 10 ports | Stratix $8300^{\text {TM }}$ managed switch, Layer 3 <br> - 6 ports | Stratix 8300 managed switch, Layer 3 <br> - 10 ports |
| Inrush current, max | 2.0 A |  |  |  |
| Switch input rating, max | 2A max @ 18...60V DC, CL 2/SELV |  |  |  |
| Alarm relay rating, max | 1 A max @ 30V DC, CL 2/SELV |  |  |  |
| Power dissipation | 15.1 W | 15.7 W | 15.1 W | 15.7 W |
| Isolation voltage | 75 V (continuous), basic insulation type, power to ground, power to network channels, and power to alarm No isolation between individual Ethernet ports <br> No isolation between console port and system <br> Type tested at 1000 V AC for 60 s |  |  |  |
| Ethernet connections | 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 and alarm connections | $0.5 \ldots 0.8 \mathrm{~mm}^{2}(20 \ldots 18 \mathrm{AWG})$ solid or stranded copper wire rated at $90^{\circ} \mathrm{C}\left(194^{\circ} \mathrm{F}\right)$ or greater, 1.2 mm (3/64 in.) insulation max |  |  |  |
| Functional ground connection | $3.3 \ldots 5.3 \mathrm{~mm}^{2}(12 \ldots 10 \mathrm{AWG})$ solid or stranded copper wire rated at $75^{\circ} \mathrm{C}\left(167^{\circ} \mathrm{F}\right)$ or greater |  |  |  |
| SFP modules ${ }^{(1)}$ | - 1783-SFP100FX <br> - 1783-SFP1GSX <br> - 1783-SFP100LX <br> - 1783-SFP1GLX |  |  |  |
| Memory card | 1783-MCF |  | 1783-RMCF |  |
| Torque | $0.23 \mathrm{~N} \cdot \mathrm{~m}(2.0 \mathrm{lb} \cdot$ in $)$ on power and alarm connectors |  |  |  |
| Wiring category ${ }^{(2)}$ | 2-on alarm ports <br> 2 - on power ports <br> 2 - on Ethernet ports |  |  |  |
| Enclosure type rating | None (open-style) |  |  |  |
| North American temp code | T4 |  |  |  |
| IEC temp code | T4 |  |  |  |
| (1) SFP modules supported only on switches with combo ports or SFP slots. |  | efer to Industrial Automation Wirin | Grounding Guidelines, publication 1 |  |

## Environmental Specifications - Stratix 8000 and Stratix 8300 Switches

| Attribute | 1783-MS06T, 1783-MS10T, 1783-RMS06T, 1783-RMS10T |
| :---: | :---: |
| Temperature, operating <br> IEC 60068-2-1 (Test Ad, Operating Cold), <br> IEC 60068-2-2 (Test Bd, Operating Dry Heat), <br> IEC 60068-2-14 (Test Nb, Operating Thermal Shock) | $-40 \ldots 60^{\circ}\left(-40 \ldots 140^{\circ} \mathrm{F}\right)$ |
| Temperature, surrounding air, max | $60^{\circ} \mathrm{C}\left(140^{\circ} \mathrm{F}\right)$ |
| Temperature, nonoperating <br> IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), <br> IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), <br> IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock) | $-40 \ldots 85^{\circ}\left(-40 \ldots 18{ }^{\circ} \mathrm{F}\right)$ |
| Relative humidity <br> IEC 60068-2-30 (Test Db, Unpackaged Damp Heat) | 5...95\% noncondensing |
| Vibration <br> IEC 60068-2-6 (Test Fc, Operating) | $2 \mathrm{~g} @ 10 \ldots 500 \mathrm{~Hz}$ |
| Shock, operating <br> IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 20 g |
| Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 30 g |
| Emissions <br> CISPR11 (IEC 61000-6-4) | Class A |
| ESD immunity IEC 61000-4-2 | 8 kV contact discharges 15 kV air discharges |
| Radiated RF immunity IEC 61000-4-3 | 20V/m with 1 kHz sine-wave $80 \% \mathrm{AM}$ from $80 \ldots 1000 \mathrm{MHz}$ $10 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ Pulse $100 \% \mathrm{AM}$ at 900 MHz $10 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ Pulse $100 \%$ AM at 1890 MHz $10 \mathrm{~V} / \mathrm{m}$ with 1 kHz sine-wave $80 \%$ AM from $1000 \ldots 2700 \mathrm{MHz}$ |
| EFT/B immunity IEC 61000-4-4 | $\pm 4 \mathrm{kV}$ at 2.5 kHz and $\pm 2 \mathrm{kV}$ at 5 kHz on power ports $\pm 4 \mathrm{kV}$ at 2.5 kHz and $\pm 2 \mathrm{kV}$ at 5 kHz on alarm ports $\pm 4 \mathrm{kV}$ at 2.5 kHz and $\pm 2 \mathrm{kV}$ at 5 kHz on Ethernet ports |
| Surge transient immunity IEC 61000-4-5 | $\pm 1 \mathrm{kV}$ line-line (DM) and $\pm 2 \mathrm{kV}$ line-earth (CM) on power ports <br> $\pm 1 \mathrm{kV}$ line-line (DM) and $\pm 2 \mathrm{kV}$ line-earth (CM) on alarm ports <br> $\pm 2 \mathrm{kV}$ line-earth (CM) on Ethernet ports |
| Conducted RF immunity IEC 61000-4-6 | 10 V rms with 1 kHz sine-wave $80 \%$ AM from $150 \mathrm{kHz} . . .80 \mathrm{MHz}$ |
| Magnetic field immunity <br> IEC 61000-4-8 | $30 \mathrm{~A} / \mathrm{m}$ long duration and $300 \mathrm{~A} / \mathrm{m}$ short duration at 50 and 60 Hz |
| Magnetic pulse immunity IEC 61000-4-9 | - |
| Oscillatory surge withstand IEEE C37.90.1 | 2.5 kV |
| Voltage variation IEC 61000-4-29 | 10 ms interruption on DC supply ports |

## Certifications - Stratix 8000 and Stratix 8300 Switches

| Certifications (when product is marked) ${ }^{(1)}$ | 1783-MS06T, 1783-MS10T, 1783-RMS06T, 1783-RMS10T |
| :--- | :--- |
| c-UL-us | UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. <br> UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File <br> E194810. |
| CE | European Union 2004/108/EC EMC Directive, compliant with: <br> - EN 61326-1; Meas./Control/Lab., Industrial Requirements <br> - EN 61000-6-2; Industrial Immunity <br> - EN 61000-6-4; Industrial Emissions <br> - EN 61131-2; Programmable Controllers (Clause 8, Zone A \& B) |
| C-Tick | Australian Radiocommunications Act, compliant with: <br> - AS/NZS CISPR 11; Industrial Emissions |
| Ex | European Union 94/9/EC ATEX Directive, compliant with: <br> - EN 60079-15; Potentially Explosive Atmospheres, Protection "n" <br> - EN 60079-0; General Requirements II 3 G Ex nA nC IIC T4X Gc |
| KC | Korean Certification of Broadcasting and Communications Equipment, compliant with: |

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

## Optional Expansion Modules - Stratix 8000 and Stratix 8300 Switches

| Cat. No. | Description |
| :--- | :--- |
| 1783-MX08T | Expansion module with 8 10/100 Base-T copper Ethernet ports |
| $1783-M X 08 F$ | Expansion module with 8100 Base-F fiber-optic Ethernet ports |
| $1783-M X 04 S$ | Expansion module with 4 100 FX fiber-optic SFP slots |
| $1783-M X 08 S$ | Expansion module with 8100 FX fiber-optic SFP slots |

Technical Specifications - Stratix 8000 and Stratix 8300 Expansion Modules

| Attribute | 1783-MX08T | 1783-MX08F | 1783-MX04S | 1783-MX08S |
| :---: | :---: | :---: | :---: | :---: |
| Description | Expansion module <br> - 8 ports, copper | Expansion module <br> - 8 ports, fiber | Expansion module <br> - 4 SFP ports, fiber | Expansion module <br> - 8 SFP ports, fiber |
| Backplane power | 3.3V DC, 1.7 A max | 3.3V DC, 3.6 A max | 3.3V DC, 2.5 A max | 3.3 V DC, 4.0 A max |
| Power consumption | 5.6 W | 11.8 W | 8.25 W | 13.2 W |
| Isolation voltage | 75 V (continuous), basic insulation type, expansion backplane to network channels <br> No isolation between individual <br> Ethernet ports <br> Type tested at 1000 V AC for 60 s | - |  |  |

Technical Specifications - Stratix 8000 and Stratix 8300 Expansion Modules

| Attribute | 1783-MX08T | 1783-MX08F | 1783-MX04S | 1783-MX08S |
| :---: | :---: | :---: | :---: | :---: |
| Ethernet connections | 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 | - |  |  |
| SFP modules | - |  | - 1783-SFP100FX <br> - 1783-SFP100LX |  |
| Wiring category ${ }^{(1)}$ | 2 - on Ethernet ports | - |  |  |
| Enclosure type rating | None (open-style) |  |  |  |
| North American temp code | T4 |  |  |  |
| IEC temp code | T4 |  |  |  |

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

Technical Specifications - Stratix 8000 and Stratix 8300 Fiber Expansion Module

| Attribute | $\mathbf{1 7 8 3}-\mathrm{MX08F}$ |
| :--- | :--- |
| Ethernet data rate | 100 Mbps |
| Connecting mode | Full duplex |
| Optical wavelength | 1310 nm |
| Optical cable length, max | Graded index multimode fiber; 2000 m |
| Optical link budget | 8 db with 62.5/125 $\mu \mathrm{m}$ multimode cable |
|  | 4 db with $50 / 125 \mu \mathrm{~m}$ multimode cable |
| Connector type | IEC 61754-20 LC connector |

Environmental Specifications - Stratix 8000 and Stratix 8300 Expansion Modules

| Attribute | $\mathbf{1 7 8 3 - M X 0 8 T}$ | 1783-MX08F |  |
| :--- | :--- | :--- | :--- |
| Temperature, operating <br> IEC 60068-2-1 (Test Ad, Operating Cold), <br> IEC 60068-2-2 (Test Bd, Operating Dry Heat), <br> IEC 60068-2-14 (Test Nb, Operating Thermal Shock) | $-40 \ldots 60^{\circ} \mathrm{C}\left(-40 \ldots 140^{\circ} \mathrm{F}\right)$ |  |  |
| Temperature, surrounding air, max | $60^{\circ} \mathrm{C}\left(140^{\circ} \mathrm{F}\right)$ |  |  |
| Temperature, nonoperating <br> IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), <br> IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), <br> IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock) | $-40 \ldots 85^{\circ} \mathrm{C}\left(-40 \ldots 185^{\circ} \mathrm{F}\right)$ | 15 g |  |
| Relative humidity <br> IEC 60068-2-30 (Test Db, Unpackaged Damp Heat) |  |  |  |
| Vibration <br> IEC 60068-2-6 (Test Fc, Operating) | $5 \ldots 95 \%$ noncondensing |  |  |
| Shock, operating <br> IEC 60068-2-27 (Test Ea, Unpackaged Shock) | $2 \mathrm{~g} \mathrm{@} \mathrm{10} \mathrm{\ldots 500Hz}$ |  |  |
| Shock, nonoperating <br> IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 20 g |  |  |

Environmental Specifications - Stratix 8000 and Stratix 8300 Expansion Modules

| Attribute | 1783-MX08T | 1783-MX08F | 1783-MX04S, 1783-MX08S |
| :---: | :---: | :---: | :---: |
| Emissions <br> 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 $80 \ldots 1000 \mathrm{MHz}$ $10 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ Pulse $100 \% \mathrm{AM}$ at 900 MHz $10 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ Pulse $100 \%$ AM at 1890 MHz $10 \mathrm{~V} / \mathrm{m}$ with 1 kHz sine-wave $80 \%$ AM from $1000 \ldots 2700 \mathrm{MHz}$ |  | 10V/m with 1 kHz sine-wave 80\% AM from 80 . . . 2000 MHz 10V/m with 200 Hz 50\% Pulse $100 \%$ AM at 900 MHz $10 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ Pulse $100 \%$ AM at 1890 MHz <br> $3 \mathrm{~V} / \mathrm{m}$ with 1 kHz sine-wave $80 \%$ AM from 2000... 2700 MHz |
| EFT/B immunity IEC 61000-4-4 | $\pm 4 \mathrm{kV}$ at 2.5 kHz and $\pm 2 \mathrm{kV}$ at 5 kHz on Ethernet ports | - |  |
| Surge transient immunity IEC 61000-4-5 | $\pm 2 \mathrm{kV}$ line-earth (CM) on Ethernet ports | - |  |
| Conducted RF immunity IEC 61000-4-6 | 10 V rms with 1 kHz sine-wave 80\% AM from $150 \mathrm{kHz} . . .80 \mathrm{MHz}$ | - |  |
| Magnetic field immunity IEC 61000-4-8 | $30 \mathrm{~A} / \mathrm{m}$ long duration and $300 \mathrm{~A} / \mathrm{m}$ short duration at 50 and 60 Hz |  | $30 \mathrm{~A} / \mathrm{m}$ long duration and 300 $\mathrm{A} / \mathrm{m}$ short duration at 50 Hz |
| Magnetic pulse immunity IEC 61000-4-9 | - |  | $300 \mathrm{~A} / \mathrm{m}$ pulse |
| Oscillatory surge withstand IEEE C37.90.1 | 2.5 kV | - |  |

Certifications - Stratix 8000 and Stratix 8300 Expansion Modules

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

## Dimensions - Stratix 8000 and Stratix 8300 Switches

This illustration shows dimensions for the 1783-MS10T switch and the 1783-MX08T expansion module. Dimensions for the other switches are the same as the 1783-MS10T switch. Dimensions for the other expansion modules are the same as the $1783-\mathrm{MX} 08 \mathrm{~T}$ expansion module.


Airflow around the switch and through the vents is unrestricted. To prevent the switch from overheating, these minimum clearances must be met:

- Top and bottom: 105 mm (4.13 in.)
- Left and right: 90 mm (3.54 in.)
- Front: 65 mm (2.56 in.)


## Stratix 6000 Ethernet Managed Switches

## Technical Specifications - Stratix 6000 Switches

| Attribute | 1783-EMS08T | 1783-EMS04T |
| :---: | :---: | :---: |
| Description | Stratix $6000^{\text {TM }}$ managed switch <br> - 8 ports <br> - 1 fiber SFP slot | Stratix 6000 managed switch <br> - 4 ports |
| Power requirements | 250 mA @ 24V DC (12...48V DC) CL 2/SELV | 100 mA @ 24V DC (12...48V DC) CL 2/SELV |
| Power dissipation, max | 5.8 W | 2.6 W |
| Thermal dissipation, max | 24.6 BTU/hr @ 60 ${ }^{\circ} \mathrm{C}\left(140^{\circ} \mathrm{F}\right)$ |  |
| Network ports | 8 RJ45 10/100 full/half duplex ports, optional SFP transceiver port | 4 RJ45 10/100 full/half duplex ports |
| Protocols | TCP/IP, EtherNet/IP, Telnet, Http, DHCP, B00TP, FTP, IGMP, SMTP |  |
| Indicators | 16 port indicators <br> 3 status indicators | 8 port indicators <br> 2 status indicators |
| EtherNet/IP features | MAC ID management, bandwidth alarming, port control, link status, scaled bandwidth information, and connections active |  |
| Switch features | VLAN, IGMP snooping, IGMP query V1 and V2, DHCP server, BOOTP server, QoS, port mirroring |  |
| Options | 1 GB fiber-optic transceiver | - |
| Inrush current, max | 2.2 A |  |
| Isolation voltage | 50 V (continuous), basic insulation type, power to ground and power to network channels No isolation between individual network channels <br> Routine tested at 707V AC for 1 s |  |
| Ethernet connections | 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 | $0.33 \ldots 3.3 \mathrm{~mm}^{2}(22 \ldots 12 \mathrm{AWG})$ solid or stranded copper wire rated at $75^{\circ} \mathrm{C}\left(167^{\circ} \mathrm{F}\right)$ or greater, 1.2 mm ( $3 / 64 \mathrm{in}$.) insulation max |  |
| Functional ground connection | $3.3 \mathrm{~mm}^{2}$ (12 AWG) solid or stranded copper wire rated at $75^{\circ} \mathrm{C}\left(167^{\circ} \mathrm{F}\right)$ or greater |  |
| SFP modules ${ }^{(1)}$ | - 1783-SFP1GSX <br> - 1783-SFP1GLX |  |
| Torque | $1.36 \mathrm{~N} \cdot \mathrm{~m}$ (12 lb in ) on DC power and functional ground |  |
| Wiring category ${ }^{(2)}$ | 2 - on DC power ports <br> 2 - on Ethernet ports |  |
| Enclosure type rating | None (open-style) |  |
| North American temp code | T4 |  |
| IEC temp code | T4 |  |

(1) SFP modules supported only on switches with combo ports or SFP slots.
(2) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

## Environmental Specifications - Stratix 6000 Switches

| Attribute | 1783-EMS04T, 1783-EMS08T |
| :---: | :---: |
| Temperature, operating <br> IEC 60068-2-1 (Test Ad, Operating Cold), <br> IEC 60068-2-2 (Test Bd, Operating Dry Heat), <br> IEC 60068-2-14 (Test Nb, Operating Thermal Shock) | $0 \ldots 60^{\circ} \mathrm{C}\left(32 \ldots 140^{\circ} \mathrm{F}\right)$ |
| Temperature, surrounding air, max | $60^{\circ} \mathrm{C}\left(140^{\circ} \mathrm{F}\right)$ |
| Temperature, nonoperating <br> 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) | $-40 \ldots 85^{\circ} \mathrm{C}\left(-40 \ldots 185^{\circ} \mathrm{F}\right)$ |
| Relative humidity <br> IEC 60068-2-30 (Test Db, Unpackaged Damp Heat) | 5...95\% noncondensing |
| Vibration <br> IEC 60068-2-6 (Test Fc, Operating) | $2 \mathrm{~g} @ 10 \ldots 500 \mathrm{~Hz}$ |
| Operating shock <br> IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 15 g |
| Nonoperating shock IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 30 g |
| Emissions <br> 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 | $10 \mathrm{~V} / \mathrm{m}$ with 1 kHz sine-wave $80 \% \mathrm{AM}$ from $80 \ldots 2000 \mathrm{MHz}$ $10 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ Pulse $100 \% \mathrm{AM}$ at 900 MHz $10 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ Pulse $100 \%$ AM at 1890 MHz $1 \mathrm{~V} / \mathrm{m}$ with 1 kHz sine-wave $80 \% \mathrm{AM}$ from $2000 \ldots . .2700 \mathrm{MHz}$ |
| EFT/B immunity IEC 61000-4-4 | $\pm 2 \mathrm{kV}$ at 5 kHz on power ports <br> $\pm 1 \mathrm{kV}$ at 5 kHz on Ethernet ports |
| Surge transient immunity IEC 61000-4-5 | $\pm 1 \mathrm{kV}$ line-line (DM) and $\pm 2 \mathrm{kV}$ line-earth (CM) on DC power ports $\pm 2 \mathrm{kV}$ line-earth (CM) on shielded Ethernet port |
| Conducted RF immunity IEC 61000-4-6 | 10 V rms with 1 kHz sine-wave $80 \%$ AM from $150 \mathrm{kHz} \ldots 80 \mathrm{MHz}$ |
| Magnetic field immunity <br> IEC 61000-4-8 | $30 \mathrm{~A} / \mathrm{m}$ long duration and $300 \mathrm{~A} / \mathrm{m}$ short duration at 50 and 60 Hz |
| Voltage variation IEC 61000-4-29 | 10 ms interruption on DC supply ports |

Certifications - Stratix 6000 Switches

| Certifications (when product is marked) ${ }^{(1)}$ | 1783-EMS04T, 1783-EMS08T |
| :---: | :---: |
| c-UL-us | UL Listed Information Technology Equipment, certified for US and Canada. See UL File E151729. |
| c-ETL-us | ETL Listed Industrial Control Equipment, certified for US and Canada. ETL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada |
| CE | European Union 2004/108/EC EMC Directive, compliant with: <br> - EN 61326-1; Meas./Control/Lab., Industrial Requirements <br> - EN 61000-6-2; Industrial Immunity <br> - EN 61000-6-4; Industrial Emissions <br> - EN 61131-2; Programmable Controllers (Clause 8, Zone A \& B) |
| C-Tick | Australian Radiocommunications Act, compliant with: <br> - AS/NZS CISPR 11; Industrial Emissions |
| Ex | European Union 94/9/EC ATEX Directive, compliant with: <br> - EN 60079-15; Potentially Explosive Atmospheres, Protection "n" <br> - EN 60079-0; General Requirements II 3 G Ex nA nL IIC T4X |
| KC | Korean Registration of Broadcasting and Communications Equipment, compliant with: <br> - Article 58-2 of Radio Waves Act, Clause 3 |
| EtherNet/P | 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 6000 Switches



Mount the switches, as shown, in the vertical position only. We do not recommend horizontal mounting due to thermal considerations. Follow these guidelines:

- Provide 50 mm ( 2 in .) of space on all sides for adequate heat dissipation.
- Leave 100 mm ( 4 in. ) for installation and removal if using the fiber-optic port on the bottom of the 1783-EMS08T switch.


## Embedded Switch Technology

## Technical Specifications - EtherNet/IP Taps

| Attribute | 1783-ETAP | 1783-ETAP1F | 1783-ETAP2F |
| :---: | :---: | :---: | :---: |
| Description | EtherNet//P tap <br> - 3 copper ports | Ethervet/IP tap <br> - 2 copper ports <br> - 1 fiber port | EtherNet/P tap <br> - 1 copper port <br> - 2 fiber ports |
| Tap type | Copper | Fiber, single-port | Fiber, dual-port |
| Current consumption, max | 125 mA @ 24V DC | 200 mA @ 24V DC | 260 mA @ 24V DC |
| DC power supply voltage rating | 24V DC (20.4...27.6V DC) CL 2/SELV |  |  |
| \|solation voltage | 30 V (continuous), basic insulation type, network channels to power and network channels to network channels |  |  |
|  | Type tested at 1250V DC for 60 s | Type tested at 853V AC for 60 s |  |
| Power consumption, max | 3 W | 4.8 W | 6.24 W |
| Power dissipation | 3 W | 4.8 W | 6.24 W |
| Ethernet connections | 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 | One $0.33 \ldots 3 . .3 \mathrm{~mm}^{2}$ (22 ... 12 AWG ) or two $0.33 \ldots 1 . .3 \mathrm{~mm}^{2}$ (22 ... 16 AWG) solid or stranded copper wire rated at $75^{\circ} \mathrm{C}\left(167^{\circ} \mathrm{F}\right)$ or greater, 1.2 mm ( $3 / 64 \mathrm{in}$.) insulation max |  |  |
| Torque | $0.6 \ldots 0.8 \mathrm{~N} \cdot \mathrm{~m}(5 \ldots . .7 \mathrm{lb}$-in) on power connectors |  |  |
| Wiring category ${ }^{(1)}$ | 1-on power ports <br> 2 - on communication ports |  |  |
| Enclosure type rating | None (open-style) |  |  |
| North American temp code | T5 | T4A | T4 |
| IEC temp code | T5 | T4 | T4 |

[^0]
## Technical Specifications - EtherNet/IP Tap Fiber Connections

| Attribute | 1783-ETAP1F, 1783-ETAP2F |
| :---: | :---: |
| Fiber transceiver type | 100Base-FX IEEE802.3u |
| Optical wavelength | 1310 nm no cap |
| Transmitter launch power at Beginning of Life (BOL), min Allow -1 dB at End of Life (EOL) | -19 dBm into $62.5 / 125 \mu \mathrm{~m}$ fiber, $\mathrm{N} / \mathrm{A}=0.275$ <br> -22.5 dBm into $50 / 125 \mu \mathrm{~m}$ fiber, $\mathrm{N} / \mathrm{A}=0.20$ |
| Receiver sensitivity, min | -31.8dBm |
| Receiver sensitivity, max | $-14 \mathrm{dBm}$ |
| Fiber channel power budget at rated BER <br> (2 connected taps, either 1783-ETAP1F or 1783-ETAP2F) | 12.8 dB for $62.5 / 125 \mu \mathrm{~m}$ multimode fiber 9.3 dB for $50 / 125 \mu \mathrm{~m}$ multimode fiber |
| Fiber connections | Glass <br> 62.5/125 $\mu \mathrm{m}$ and $50 / 125 \mu \mathrm{~m}$ multimode fiber <br> Simplex or duplex <br> Jacket type and jacket diameter is dependent on connector selection <br> Graded Index (GI) fiber <br> Per IEC 60794-1-1, IEC 60793-2-10 category A1 fibers |
| Connector type | IEC 61754-20 LC connector, maximum insertion loss 0.75 dB per connection |
| Channel length, max | $2 \mathrm{~km}(1.24 \mathrm{mi})^{(1)}$ |

(1) The channel, that is, connectors and cable, must not exceed the allowable power budget.

## Environmental Specifications - EtherNet/IP Taps

| Attribute | 1783-ETAP | 1783-ETAP1F, 1783-ETAP2F |
| :---: | :---: | :---: |
| Temperature, operating <br> IEC 60068-2-1 (Test Ad, Operating Cold) <br> IEC 60068-2-2 (Test Bd, Operating Dry Heat) <br> IEC 60068-2-14 (Test Nb, Operating Thermal Shock) | $-25 . . .70^{\circ}\left(-13 \ldots 158^{\circ} \mathrm{F}\right)$ | $-25 \ldots 60^{\circ}\left(-13 \ldots 140^{\circ} \mathrm{F}\right)$ |
| Temperature, surrounding air, max | $70^{\circ} \mathrm{C}\left(158^{\circ} \mathrm{F}\right)$ | $60^{\circ} \mathrm{C}\left(140{ }^{\circ} \mathrm{F}\right)$ |
| Temperature, nonoperating <br> IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold) <br> IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat) <br> IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock) | $-40 \ldots 8{ }^{\circ}\left(-40 \ldots 185^{\circ} \mathrm{F}\right)$ |  |
| Relative humidity <br> IEC 60068-2-30 (Test Db, Unpackaged Damp Heat) | 5. . . $95 \%$ noncondensing |  |
| Vibration <br> IEC 60068-2-6 (Test Fc, Operating) | $5 \mathrm{~g} @ 10 \ldots 500 \mathrm{~Hz}$ |  |
| Shock, operating <br> IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 30 g |  |
| Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 50 g |  |
| Emissions <br> CISPR11 (IEC 61000-6-4) | Class A |  |
| ESD immunity IEC 61000-4-2 | 6 kV contact discharges 8 kV air discharges |  |

Environmental Specifications - EtherNet/IP Taps

| Attribute | 1783-ETAP | 1783-ETAP1F, 1783-ETAP2F |
| :--- | :--- | :--- |
| Radiated RF immunity <br> IEC 61000-4-3 | $10 \mathrm{~V} / \mathrm{m}$ with 1 kHz sine-wave $80 \% \mathrm{AM}$ from $80 \ldots 2000 \mathrm{MHz}$ <br> $10 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ Pulse $100 \% \mathrm{AM}$ at 900 MHz <br> $10 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ Pulse $100 \% \mathrm{AM}$ at 1890 MHz <br> $3 \mathrm{~V} / \mathrm{m}$ with 1 kHz sine-wave $80 \% \mathrm{AM}$ from $2000 \ldots 2700 \mathrm{MHz}$ |  |
| EFT/B immunity <br> IEC 61000-4-4 | $\pm 4 \mathrm{kV}$ at 5 kHz on power ports <br> $\pm 3 \mathrm{kV}$ at 5 kHz on communication ports |  |
| Surge transient immunity <br> IEC 61000-4-5 | $\pm 1 \mathrm{kV}$ line-line (DM) and $\pm 2 \mathrm{kV}$ line-earth (CM) on power ports <br> $\pm 2 \mathrm{kV}$ line-earth (CM) on communication ports |  |
| Conducted RF immunity <br> IEC 61000-4-6 | 10 V rms with 1 kHz sine-wave $80 \%$ AM from $150 \mathrm{kHz} \ldots 80 \mathrm{MHz}$ |  |
| Voltage variation | 10 ms interruption on DC supply ports |  |
| IEC 61000-4-29 |  |  |

## Certifications - EtherNet/IP Taps

| Certification ${ }^{(1)}$ | 1783-ETAP | 1783-ETAP1F, 1783-ETAP2F |
| :---: | :---: | :---: |
| c-UL-us | UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. <br> UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E194810. |  |
| CE | European Union 2004/108/EC EMC Directive, compliant with: <br> - EN 61326-1;Meas./Control/Lab., Industrial Requirements <br> - EN 61000-6-2; Industrial Immunity <br> - EN 61000-6-4; Industrial Emissions <br> - EN 61131-2; Programmable Controllers (Clause 8, Zone A and B) |  |
| C-Tick | Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions |  |
| Ex | European Union 94/9/EC ATEX Directive, compliant with: <br> - EN 60079-15; Potentially Explosive Atmospheres, Protection "n" <br> - EN 60079-0; General Requirements <br> - II 3 GExnA IICT5 X | European Union 94/9/EC ATEX Directive, compliant with: <br> - EN 60079-15; Potentially Explosive Atmospheres, Protection "n" <br> - EN 60079-0; General Requirements <br> - II 3 GExnA IICT4X |
| KC | Korean Registration of Broadcasting and Communications Equipment, compliant with: <br> - Article 58-2 of Radio Waves Act, Clause 3 |  |
| EtherNet/IP | ODVA conformance tested to EtherNet/IP specifications |  |

## Dimensions - EtherNet/IP Taps

This illustration shows dimensions for the 1783-ETAP tap. The dimensions for the 1783-ETAP1F and 1783-ETAP2F taps are the same.


## Stratix 2000 Ethernet Unmanaged Switches

Technical Specifications - Stratix 2000 Switches

| Attribute | 1783-US03T01F | 1783-US06T01F | 1783-US05T | 1783-US08T | 1783-US8T |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Description | Stratix 2000 ${ }^{\text {TM }}$ unmanaged switch <br> - 3 copper ports <br> - 1 fiber port | Stratix 2000 unmanaged switch <br> - 6 copper ports <br> - 1 fiber port | Stratix 2000 unmanaged switch <br> - 5 copper ports | Stratix 2000 unmanaged switch <br> - 8 copper ports | Stratix 2000 unmanaged switch <br> - 8 copper ports |
| Inrush current, max | 2.2 A |  |  |  |  |
| Power supply voltage | 20V AC (10...24V AC) <br> 24 V D ( $10 \ldots 35 \mathrm{~V}$ DC |  |  |  | 24V (18...60V DC, 18...30V AC $50 / 60 \mathrm{~Hz}$ ), 361 mA, Class 2/SELV |
| Isolation voltage | 30 V (continuous), basic insulation type, power to network channels No isolation between individual network channels Type tested at 500V AC for 60 s |  |  |  |  |
| Power consumption, max | 4 W (6VA) <br> Current 400 mA @10 |  |  |  | 4.04 W @ 24V AC/DC |
| Ethernet connections | 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 | $1.5 \ldots 2.5 \mathrm{~mm}^{2}$ ( $16 \ldots 14 \mathrm{AWG}$ ) solid or stranded copper wire rated at $75^{\circ} \mathrm{C}\left(167^{\circ} \mathrm{F}\right)$ or greater $1.2 \mathrm{~mm}(3 / 64 \mathrm{in}$.) insulation max |  |  |  | $\begin{aligned} & 0.75 \ldots 2.5 \mathrm{~mm}^{2} \\ & \text { (18... } 14 \text { AWG) } \end{aligned}$ <br> twisted-pair copper wire suitable for $30^{\circ} \mathrm{C}\left(86^{\circ} \mathrm{F}\right)$ above surrounding ambient temperature outside the enclosure. <br> Functional Earth connection: <br> $2.5 \mathrm{~mm}^{2}$ (14 AWG) copper wire suitable for $86^{\circ} \mathrm{F}$ (30 ${ }^{\circ} \mathrm{C}$ ) above surrounding ambient temperature outside the enclosure, with a suitable ring terminal. |
| Torque, max recommended | $0.8 \mathrm{~N} \cdot \mathrm{~m}$ (7 lb-in) on power connectors |  |  |  | $1.82 \mathrm{~N} \cdot \mathrm{~m}$ ( $16 \mathrm{lb} \cdot \mathrm{in}$ ) on power/functional earth connector |
| Wiring category ${ }^{(1)}$ | 2 - on power ports <br> 2- on communication ports |  |  |  | 1 - on power ports 2-on communication ports |
| Enclosure type rating | None (open-style) |  |  |  |  |
| North American temp code | T4 |  |  |  | T5 |
| IEC temp code | T4 |  |  |  | T5 |

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

Technical Specifications - Stratix 2000 Fiber Connections

| Attribute | 1783-US03T01F, 1783-US06T01F |
| :--- | :--- |
| Ethernet data rate | 100 Mbps |
| Connecting mode | Full duplex |
| Optical wavelength | 1310 nm |
| Optical cable length, max | Graded index multimode fiber; 2000 m |
| Optical link budget | 8 db with $62.5 / 125 \mu \mathrm{~m}$ multimode cable <br> 4 db with $50 / 125 \mu \mathrm{~m}$ multimode cable |
| Connector type | IEC 61754-20 LC connector |
| Fiber connections | Glass <br> $62.5 / 125 ~ \mu \mathrm{~m}$ and $50 / 125 ~ \mu \mathrm{~m}$ multimode fiber <br> Simplex or duplex <br> Jacket type and jacket diameter is dependent on connector selection <br> Graded Index (GI) fiber <br> Per IEC 60794-1-1, IEC 60793-2-10 category A1 fibers |

## Environmental Specifications - Stratix 2000 Switches

| Attribute | 1783-US06T01F | 1783-US03T01F,1783-USOST, 1783-US08T | 1783-US8T |
| :---: | :---: | :---: | :---: |
| Temperature, operating <br> IEC 60068-2-1 (Test Ad, Operating Cold), <br> IEC 60068-2-2 (Test Bd, Operating Dry Heat), <br> IEC 60068-2-14 (Test Nb, Operating Thermal Shock) | $0 \ldots 60^{\circ} \mathrm{C}\left(32 \ldots 140^{\circ} \mathrm{F}\right)$ |  |  |
| Temperature, surrounding air, max | $60^{\circ}\left(140^{\circ} \mathrm{F}\right)$ |  |  |
| Temperature, nonoperating <br> IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold) <br> IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat) <br> IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock) | $-40 \ldots 85^{\circ}\left(-40 \ldots 185^{\circ} \mathrm{F}\right)$ |  |  |
| Relative humidity <br> IEC 60068-2-30 (Test Db, Unpackaged Damp Heat) | 5...95\% noncondensing |  |  |
| Vibration <br> IEC 60068-2-6 (Test Fc, Operating) | $2 \mathrm{~g} @ 10 \ldots 500 \mathrm{~Hz}$ |  |  |
| Operating shock IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 15 g |  |  |
| Nonoperating shock <br> IEC 60068-2-27 (Test Ea, Unpackaged Shock) | 30 g |  |  |
| Emissions <br> CISPR11 (IEC 61000-6-4) | Class A |  |  |
| ESD immunity IEC 61000-4-2 | 4 kV contact discharges 8 kV air discharges | 6 kV contact discharges 8 kV air discharges |  |
| Radiated RF immunity IEC 61000-4-3 | $10 \mathrm{~V} / \mathrm{m}$ with 1 kHz sine-wave $80 \% \mathrm{AM}$ from $80 \ldots .2000 \mathrm{MHz}$ $10 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ Pulse $100 \%$ AM at 900 MHz $10 \mathrm{~V} / \mathrm{m}$ with $200 \mathrm{~Hz} 50 \%$ Pulse $100 \%$ AM at 1890 MHz $1 \mathrm{~V} / \mathrm{m}$ with 1 kHz sine-wave $80 \% \mathrm{AM}$ from $2000 \ldots . .2700 \mathrm{MHz}$ |  | 10V/m with 1 kHz sine-wave $80 \%$ AM from $80 \ldots$. . 2000 MHz $3 \mathrm{~V} / \mathrm{m}$ with 1 kHz sine-wave 80\% AM from 2000... 2700 MHz |

Environmental Specifications - Stratix 2000 Switches

| Attribute | 1783-US06T01F | 1783-US03T01F,1783-US05T, 1783-US08T | 1783-US8T |
| :---: | :---: | :---: | :---: |
| EFT/B immunity IEC 61000-4-4 | $\pm 2 \mathrm{kV}$ at 5 kHz on power ports <br> $\pm 2 \mathrm{kV}$ at 5 kHz on communication ports |  | $\pm 4 \mathrm{kV}$ at 5 kHz on power ports $\pm 3 \mathrm{kV}$ at 5 kHz on communication ports |
| Surge transient immunity IEC 61000-4-5 | $\pm 1 \mathrm{kV}$ line-line (DM) and $\pm 2 \mathrm{kV}$ line-earth (CM) on DC power ports <br> $\pm 2$ kV line-earth (CM) on communication port |  | $\pm 2 \mathrm{kV}$ line-line (DM) and $\pm 4 \mathrm{kV}$ line-earth (CM) on DC power ports $\pm 2$ kV line-earth (CM) on communication port |
| Conducted RF immunity IEC 61000-4-6 | 10 V rms with 1 kHz sine-wave $80 \%$ AM from 150 kHz . . 80 MHz |  |  |
| Magnetic field immunity <br> IEC 61000-4-8 | - |  | $30 \mathrm{~A} / \mathrm{m}$ long duration and 300 $\mathrm{A} / \mathrm{m}$ short duration at 50 Hz |
| Magnetic pulse immunity <br> IEC 61000-4-9 | - |  | $30 \mathrm{~A} / \mathrm{m}$ pulse |

## Certifications- Stratix 2000 Switches

| Certifications (when product is marked) ${ }^{(1)}$ | 1783-US03T01F, 1783-US06T01F, 1783-US05T, 1783-US08T | 1783-US8T |
| :---: | :---: | :---: |
| 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. |  |
| CE | European Union 2004/108/EC EMC Directive, compliant with: <br> - EN 61326-1; Meas./Control/Lab., Industrial Requirements <br> - EN 61000-6-2; Industrial Immunity <br> - EN 61000-6-4; Industrial Emissions <br> - EN 61131-2; Programmable Controllers (Clause 8, Zone A \& B) |  |
| C-Tick | Australian Radiocommunications Act, compliant with: <br> - AS/NZS CISPR 11; Industrial Emissions |  |
| Ex | European Union 94/9/EC ATEX Directive, compliant with: <br> - EN 60079-15; Potentially Explosive Atmospheres, Protection "n" <br> - EN 60079-0; General Requirements II 3 G Ex nA IIC T5X Gc |  |
| KC | Korean Registration of Broadcasting and Communications Equipment, compliant with: <br> - Article 58-2 of Radio Waves Act, Clause 3 |  |

(1) See the Product Certification link at http://www.ab.com for Declarations of Conformity, Certificates, and other certification details.

## Dimensions - Stratix 2000 Switches

## 1783-US03T01F and 1783-US05T Switch Dimensions



The 1783-US06T01F and 1783-US08T switches have the same depth and height as the switches above, but they are 45 mm (1.77 in.) wide.

## 1783-US8T Switch Dimensions



32312-M

## Accessories

## Small Form-factor Pluggable (SFP) Transceivers

| Cat. No. | Description | Wavelength | Core Size/ Cladding Size (micron) | Modal Bandwidth (MHz/km) | Cable Length | Compatibility |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1783-SFP100FX | 100 Base-FX multi-mode transceiver | 1310 nm | 50/125 | 500 | 2 km (6562 ft) | Stratix 5700 |
|  |  |  | 62.5/125 | 500 |  | Stratix 8000 <br> Stratix 8300 |
| 1783-SFP100LX | 100 Base-LX single-mode transceiver | 1310 nm | G. 652 | - | 10 km (32.81 ft) | Stratix 5700 <br> Stratix 8000 <br> Stratix 8300 |
| 1783-SFP1GSX | 1000 Base-SX multi-mode transceiver | 850 nm | 62.5/125 | 160 | 220 m (722 ft) | Stratix 6000 <br> Stratix 5700 <br> Stratix 8000 <br> Stratix 8300 |
|  |  |  | 62.5/125 | 200 | 275 m (902 ft) |  |
|  |  |  | 50/125 | 400 | 500 m (1640 ft) |  |
|  |  |  | 50/125 | 500 | 550 m (1804 ft) |  |
| 1783-SFP1GLX | 1000 Base-LX/LH single-mode transceiver | 1310 nm | G. 652 | - | 10 km (32.81 ft) | Stratix 6000 <br> Stratix 5700 <br> Stratix 8000 <br> Stratix 8300 |

## Memory Cards

| Cat. No. | Description | Compatibility |
| :--- | :--- | :--- |
| 1784-SD1 | 1GB industrial SD card | Stratix 5700 |
| 1783-MCF | Stratix 8000 CompactFlash card (spare) | Stratix 8000 |
| 1783-RMCF | Stratix 8300 CompactFlash card (spare) | Stratix 8300 |

## Ethernet Cable

| Cat. No. | Description | Cable Length |
| :---: | :---: | :---: |
| 1585J-M8PBJM-2 | Unshielded (UTP) RJ45 to RJ45 patchcord | 2 m (6.56ft) |
| 1585J-M8PBJM-5 |  | 5 m (16.41ft) |
| 1585J-M8PBJM-10 |  | 10 m ( 32.81 ft ) |
| 1585J-M8CBJM-2 | Shielded (STP) RJ45 to RJ45 patchcord | 2 m (6.56 ft) |
| 1585J-M8CBJM-5 |  | 5 m (16.41 ft) |
| 1585J-M8CBJM-10 |  | 10 m (32.81 ft) |
| 1585-C8CB-S100 | Unshielded Ethernet cable spool | 100 m (328.08 ft) |
| 1585-C8PB-S100 | Shielded Ethernet cable spool | 100 m (328.08 ft) |
| 1585-C8PB-S300 |  | 300 m (984.25 ft) |
| 1585-C8PB-S600 |  | $600 \mathrm{~m}(1,968.51 \mathrm{ft})$ |
| 1585J-M8CC-SH | Field attachable connector, IDC | - |

For additional Ethernet media choices, see On-Machine ${ }^{\text {mix }}$ Connectivity Catalog, publication M117-CA001.

## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

| Resource | Description |
| :--- | :--- |
| EtherNet/IP Industrial Protocol White Paper, publication ENET-WP001 | Describes how to implement services and data objects on a TCP/UDP/IP based <br> Ethernet network. |
| Stratix 5700 Ethernet Managed Switch Installation Instructions, publication $1783-$ IN009 | Provides details about installing and configuring the switch. |
| Stratix 5700 Ethernet Managed Switches User Manual, publication $\underline{1783-U M 004}$ | Provides detailed information on configuring and managing the switches. |
| Stratix 8000 and 8300 Ethernet Managed Switches User Manual, publication $\underline{1783-U M 003}$ | Provides detailed information on configuring and managing the switches. |
| Stratix 6000 Ethernet Managed Switch User Manual, publication $\underline{1783-\text { UM001 }}$ | Provides details about how to configure and use the switch. |
| Stratix 2000 Ethernet Unmanaged Switch Installation Instructions, publication $\underline{1783-I N 001}$ | Provides details about installing and configuring the switch. |
| Industrial Automation Wiring and Grounding Guidelines, publication $\underline{1770-4.1}$ | Provides general guidelines for installing a Rockwell Automation ${ }^{\text {® }}$ industrial system. |
| Product Certifications website, http://www.ab.com | Provides declarations of conformity, certificates, and other certification details. |

You can view or download publications at http://www.rockwellautomation.com/literature/. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

## Important Information

Solid-state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls (publication SGI-1.1 available from your local Rockwell Automation sales office or online at http://www.rockwellautomation.com/literature/) describes some important differences between solid-state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid-state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

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[^1]
[^0]:    (1) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1

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