

## Stratix 2000 Ethernet Unmanaged Switches

Catalog Numbers 1783-US5T, 1783-US5TG, 1783-US4T1F, 1783-US4T1H, 1783-US8T, 1783-US6T2F, 1783-US6T2H, 1783-US7T1F, 1783-US7T1H, 1783-US6T2TG2F, 1783-US6T2TG2H, 1783-US8TG2GX, 1783-US16T, 1783-US16T2S

Topic	Page
Broadcast Storm Protection	3
DIP Switches	4
Status Indicators	4
Additional Resources	10

## Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

Reproduction of the contents of this manual, in whole or in part, without written permission of Rockwell Automation, Inc., is prohibited

Throughout this manual, when necessary, we use notes to make you aware of safety considerations.



**WARNING:** Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.



**ATTENTION:** Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.

---

**IMPORTANT**

Identifies information that is critical for successful application and understanding of the product.

---

Labels may also be on or inside the equipment to provide specific precautions.



**SHOCK HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.



**BURN HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.



**ARC FLASH HAZARD:** Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

---

## Broadcast Storm Protection

A broadcast storm occurs when a network is overwhelmed by continuous multicast or broadcast traffic typically caused by loops in the network. A severe broadcast storm can block all other network traffic. Stratix® 2000 switches provide protection against broadcast storms. When the broadcast storm protection feature is enabled, the switch drops incoming broadcast traffic if the traffic exceeds a certain threshold.

Stratix 2000 switches use two methods to determine the threshold for incoming broadcast traffic, depending on the switch catalog number:

- Packet-based threshold—The switch counts the number of broadcast packets received within a time cycle. Once the number of broadcast packets reaches the maximum number of packets in the time cycle, the port drops any excess broadcast packets. For threshold values based on packet number, see [Table 1](#).
- Rate-based threshold—The switch tracks the bandwidth of each port based on a maximum bit rate. Once a port reaches the maximum bit rate, the port drops any excess broadcast packets. For threshold values based on rate, see [Table 2](#).

**Table 1 - Packet-based Thresholds**

Cat. No.	Broadcast Storm Threshold (Packets per Second)
1783-USST	20 pps for 10 Mbps per port; 200 pps for 100 Mbps per port
1783-US4T1F	20 pps for 10 Mbps per port; 200 pps for 100 Mbps per port
1783-US4T1H	20 pps for 10 Mbps per port; 200 pps for 100 Mbps per port
1783-US8T	20 pps for 10 Mbps per port; 200 pps for 100 Mbps per port
1783-US6T2F	20 pps for 10 Mbps per port; 200 pps for 100 Mbps per port
1783-US6T2H	20 pps for 10 Mbps per port; 200 pps for 100 Mbps per port
1783-US7T1F	20 pps for 10 Mbps per port; 200 pps for 100 Mbps per port
1783-US7T1H	20 pps for 10 Mbps per port; 200 pps for 100 Mbps per port
1783-US6T2TG2F	128 pps for 10/100/1000 Mbps
1783-US6T2TG2H	128 pps for 10/100/1000 Mbps
1783-US8TG2GX	128 pps for 10/100/1000 Mbps

**Table 2 - Rate-based Thresholds**

Cat. No.	Broadcast Storm Threshold
1783-US16T	10 Mbps per port
1783-US16T2S	10 Mbps per port
1783-US5TG	25 Mbps per port

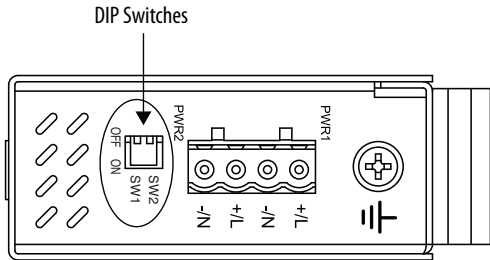
You can enable or disable broadcast storm protection by using DIP switch SW1 on the top panel of the switch:

- To enable the feature, set SW1 to the On position and restart the switch.
- To disable the feature, set SW1 to the Off position. By default, the feature is disabled.

## DIP Switches

There are two DIP switches on the top panel of the switches. Each switch has On and Off states.

**IMPORTANT** To activate DIP switch settings, you must restart the switch.



32695-M

The function of the DIP switches varies by catalog number.

Cat. No.	DIP Switch	Status	Description	Default
1783-US5T, 1783-US4T1F, 1783-US4T1H, 1783-US8T, 1783-US6T2F, 1783-US6T2H, 1783-US7T1F, 1783-US7T1H, 1783-US16T, 1783-US16T2S	SW1	On	Enables broadcast storm protection.	Off
		Off	Disables broadcast storm protection.	
	SW2	Reserved		Off
1783-US6T2TG2F 1783-US6T2TG2H	SW1	On	Enables broadcast storm protection.	Off
		Off	Disables broadcast storm protection.	
	SW2	On	Sets the SFP fiber port speed to 100 Mbps (100Base-FX). SW2 must remain in the On position.	On
		Off	Reserved	
1783-US5TG 1783-US8TG2GX	SW1	On	Enables broadcast storm protection.	Off
		Off	Disables broadcast storm protection.	
	SW2	On	Transmits jumbo frames up to 10 KB on the 1783-US5TG switch and up to 9.6 KB on the 1783-US8TG2GX switch.	Off
		Off	Drops jumbo frames.	

## Status Indicators

The status indicators on the switches indicate the following:

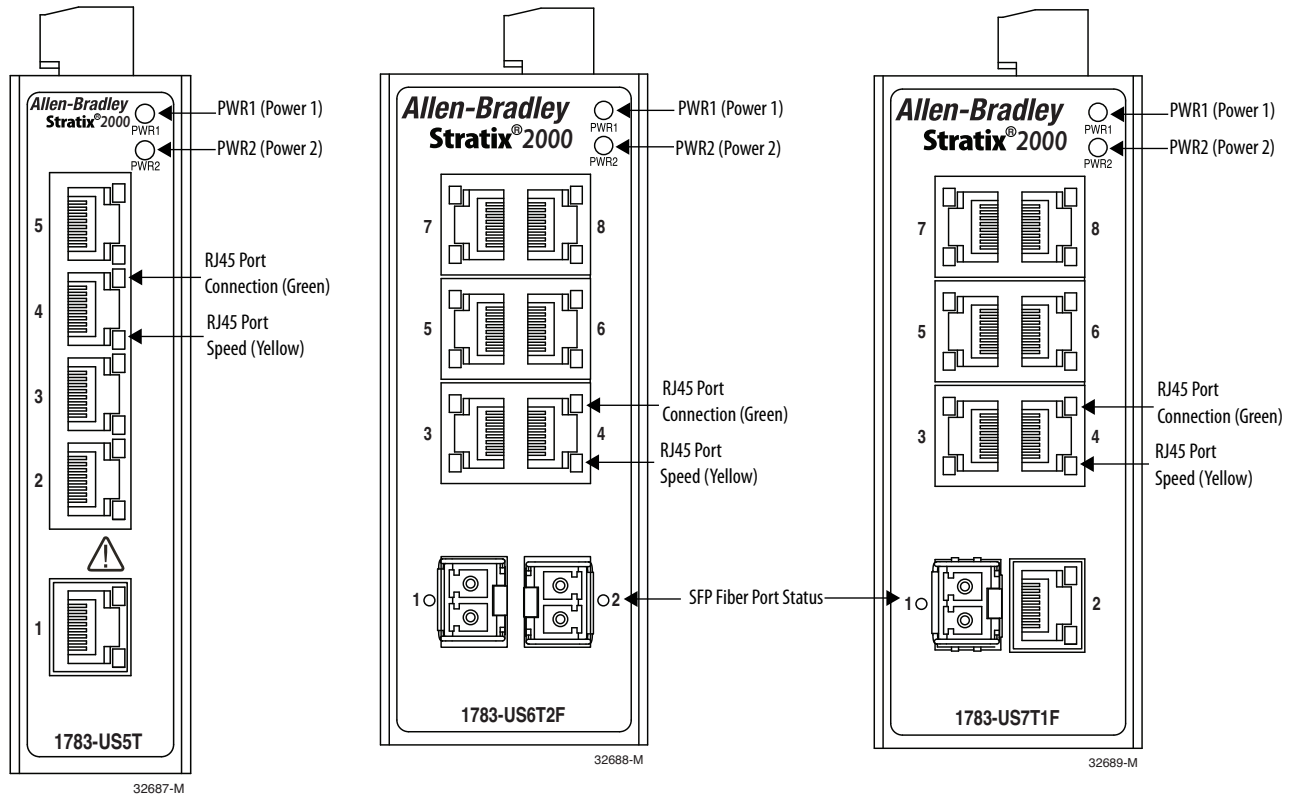
- Status of each power supply
- Status of port speed
- Status of network connection or activity

The function of the status indicators varies by catalog number:

- [5- and 8-port Fast Ethernet Switches on page 5](#)
- [10-port Fast Ethernet Switches on page 6](#)
- [16- and 18-port Fast Ethernet Switches on page 7](#)
- [5- and 10-port Gigabit Ethernet Switches on page 8](#)

### 5- and 8-port Fast Ethernet Switches

These illustrations show the status indicators on the 1783-US5T, 1783-US6T2F, and 1783-US7T1F switches. The status indicators on the 1783-US4T1E, 1783-US4T1H, 1783-US8T, 1783-US6T2H, 1783-US7T1H switches function the same as these switches.

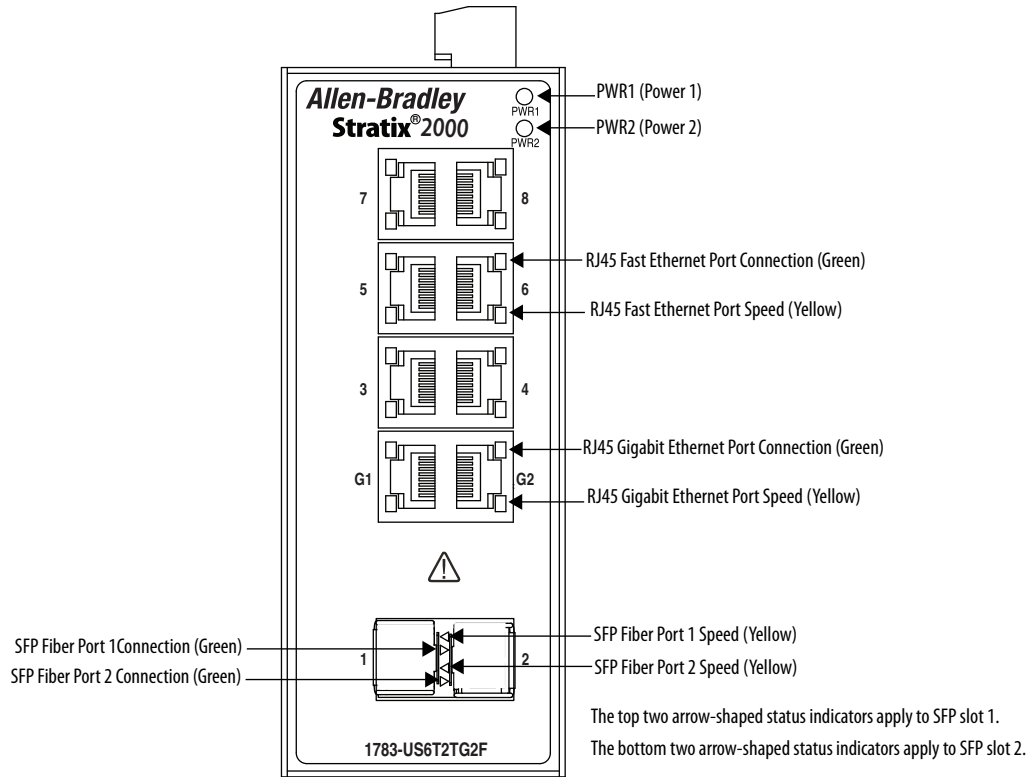


Indicator	Status	Description
PWR1	On	PWR1 is connected and operates normally.
	Off	PWR1 is not connected or operates abnormally.
PWR2	On	PWR2 is connected and operates normally.
	Off	PWR2 is not connected or operates abnormally.
RJ45 port connection (green)	On	The port has an operating network connection.
	Blinking <sup>(1)</sup>	There is network activity on the port.
	Off	The port has no network connection.
RJ45 port speed (yellow)	On	The port is operating at 100 Mbps (100Base-TX).
	Off	The port is operating at 10 Mbps, or the port has no network connection.
SFP fiber port status (green)	On	The port has an operating network connection.
	Blinking <sup>(1)</sup>	There is network activity on the port.
	Off	The port has no network connection.

(1) For blink rate, see [page 9](#).

## 10-port Fast Ethernet Switches

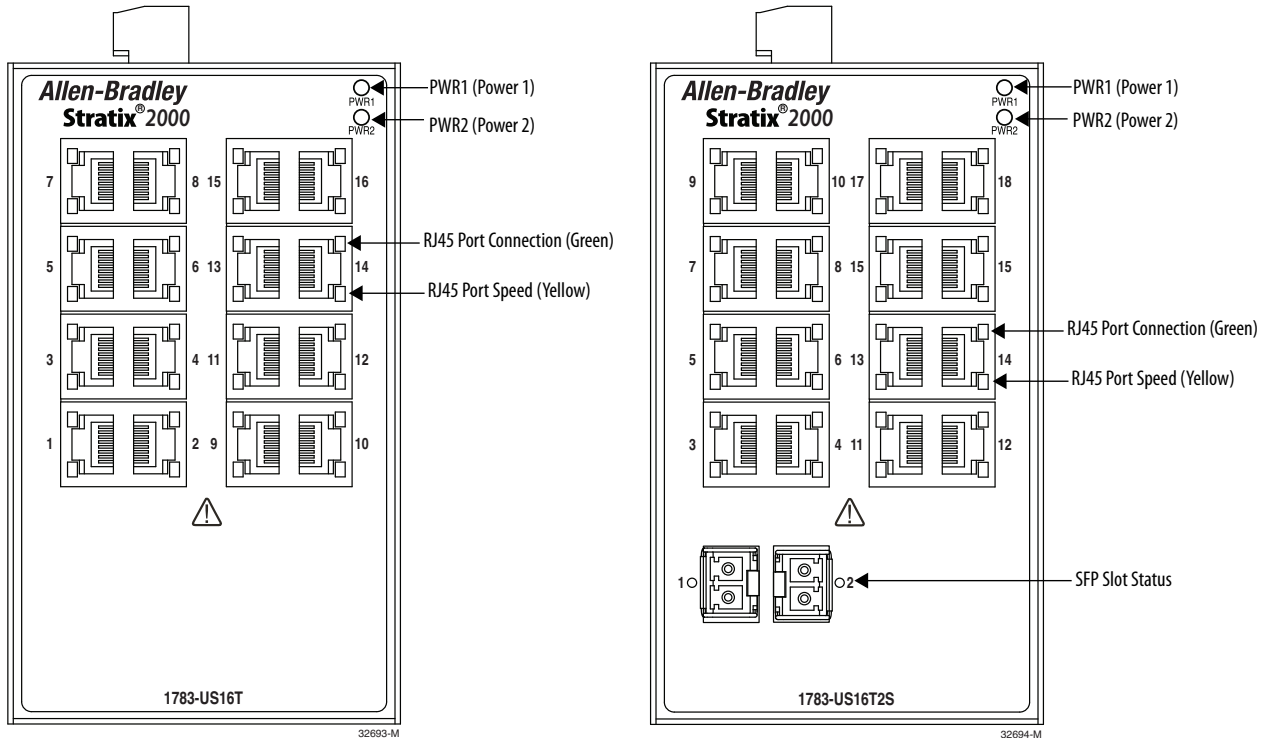
This illustration shows the status indicators on the 1783-US6T2TG2F and 1783-US6T2TG2H switches.



Indicator	Status	Description
PWR1	On	PWR1 is connected and operates normally.
	Off	PWR1 is not connected or operates abnormally.
PWR2	On	PWR2 is connected and operates normally.
	Off	PWR2 is not connected or operates abnormally.
RJ45 Fast Ethernet port connection (green)	On	The port has an operating network connection.
	Blinking	There is network activity on the port.
	Off	The port has no network connection. For the blink rate, see <a href="#">page 9</a> .
RJ45 Fast Ethernet port speed (yellow)	On	The port is operating at 100 Mbps (100Base-TX).
	Off	The port is operating at 10 Mbps, or the port has no network connection.
RJ45 Gigabit Ethernet port connection (green)	On	The port has an operating network connection.
	Blinking	There is network activity on the port. For the blink rate, see <a href="#">page 9</a> .
	Off	The port has no network connection.
RJ45 Gigabit Ethernet port speed (yellow)	On	The port is operating at 1000 Mbps (1000Base-TX).
	Off	The port is operating at 10/100 Mbps (10/100Base-T(X)), or the port has no network connection.
SFP fiber port connection	On	The port has an operating network connection.
	Blinking	There is network activity on the port. For the blink rate, see <a href="#">page 9</a> .
	Off	The port has no network connection.
SFP fiber port speed (yellow)	On	The port is operating at 1000 Mbps (1000Base-X).
	Off	The port is operating at 100 Mbps (100Base-FX), or the port has no network connection. <b>IMPORTANT:</b> By default, the switch operates at 100 Mbps and the SFP fiber port speed indicator is Off.

## 16- and 18-port Fast Ethernet Switches

These illustrations show the status indicators on the 1783-US16T and 1783-US16T2S switches.



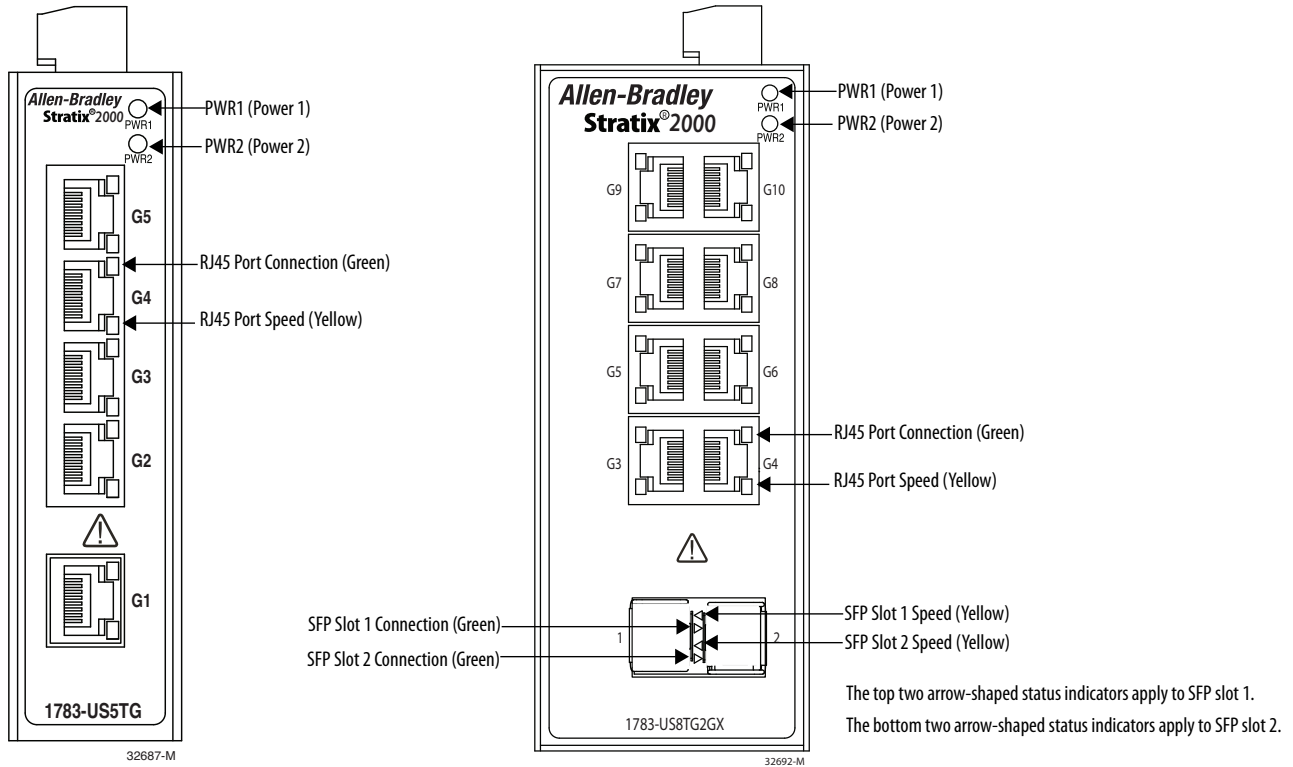
Indicator	Status	Description
PWR1	On	PWR1 is connected and operates normally.
	Off	PWR1 is not connected or operates abnormally.
PWR2	On	PWR2 is connected and operates normally.
	Off	PWR2 is not connected or operates abnormally.
RJ45 port connection (green)	On	The port has an operating network connection.
	Blinking <sup>(2)</sup>	There is network activity on the port.
	Off	The port has no network connection.
RJ45 port speed (yellow)	On	The port is operating at 100 Mbps (100Base-TX).
	Off	The port is operating at 10 Mbps, or the port has no network connection.
SFP slot status <sup>(1)</sup>	On	The port has an operating network connection.
	Blinking <sup>(2)</sup>	There is network activity on the port.
	Off	The port has no network connection.

(1) Available only on 1783-US16T2S switches.

(2) For blink rate, see [page 9](#).

### 5- and 10-port Gigabit Ethernet Switches

These illustrations show the status indicators on the 1783-US5TG and 1783-US8TG2GX switches.



The top two arrow-shaped status indicators apply to SFP slot 1.  
The bottom two arrow-shaped status indicators apply to SFP slot 2.

Indicator	Status	Description
PWR1	On	PWR1 is connected and operates normally.
	Off	PWR1 is not connected or operates abnormally.
PWR2	On	PWR2 is connected and operates normally.
	Off	PWR2 is not connected or operates abnormally.
RJ45 port connection (green)	On	The port has an operating network connection.
	Blinking	There is network activity on the port.
	Off	The port has no network connection.
RJ45 port speed (yellow)	On	The port is operating at 1000 Mbps (1000Base-TX).
	Off	The port is operating at 10/100 Mbps (10/100Base-TX), or the port has no network connection.
SFP slot speed (yellow) <sup>(1)</sup>	On	The port is operating at 1000 Mbps (1000Base-X).
	Off	The port is operating at 100 Mbps (100Base-FX), or the port has no network connection.
SFP slot connection (green) <sup>(1)</sup>	On	The port has an operating network connection.
	Blinking	There is network activity on the port.
	Off	The port has no network connection.

(1) Available only on 1783-US8TG2GX switches.



## Status Indicator Blink Rate

A port status indicator blinks to indicate network activity on the port. The rate at which a status indicator blinks varies by catalog number.

<b>Cat. No.</b>	<b>Rate</b>
1783-US5T	105 ms
1783-US5TG	84 ms
1783-US4T1F	105 ms
1783-US4T1H	105 ms
1783-US8T	105 ms
1783-US6T2F	105 ms
1783-US6T2H	105 ms
1783-US7T1F	105 ms
1783-US7T1H	105 ms
1783-US6T2TG2F	100 ms
1783-US6T2TG2H	100 ms
1783-US8TG2GX	100 ms
1783-US16T	42 ms
1783-US16T2S	42 ms

## Additional Resources

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

Resource	Description
Stratix 2000 Ethernet Unmanaged Switches Installation Instructions, publication <a href="#">1783-IN003</a>	Describes how to install Stratix 2000 switches.
Stratix Ethernet Device Specifications Technical Data, publication <a href="#">1783-TD001</a>	Provides specification information for Stratix 2000 switches and other Ethernet devices.
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, <a href="http://www.rockwellautomation.com/global/certification/overview.page">http://www.rockwellautomation.com/global/certification/overview.page</a>	Provides declarations of conformity, certificates, and other certification details.

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

## Rockwell Automation Support

Use the following resources to access support information.

<b>Technical Support Center</b>	Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.	<a href="https://rockwellautomation.custhelp.com/">https://rockwellautomation.custhelp.com/</a>
<b>Local Technical Support Phone Numbers</b>	Locate the phone number for your country.	<a href="http://www.rockwellautomation.com/global/support/get-support-now.page">http://www.rockwellautomation.com/global/support/get-support-now.page</a>
<b>Direct Dial Codes</b>	Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer.	<a href="http://www.rockwellautomation.com/global/support/direct-dial.page">http://www.rockwellautomation.com/global/support/direct-dial.page</a>
<b>Literature Library</b>	Installation Instructions, Manuals, Brochures, and Technical Data.	<a href="http://www.rockwellautomation.com/global/literature-library/overview.page">http://www.rockwellautomation.com/global/literature-library/overview.page</a>
<b>Product Compatibility and Download Center (PCDC)</b>	Get help determining how products interact, check features and capabilities, and find associated firmware.	<a href="http://www.rockwellautomation.com/global/support/pcdc.page">http://www.rockwellautomation.com/global/support/pcdc.page</a>

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

Allen-Bradley, Rockwell Automation, Rockwell Software, and Stratix are trademarks of Rockwell Automation, Inc. Trademarks not belonging to Rockwell Automation are property of their respective companies.

Rockwell Otomasyon Ticaret A.Ş., Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400

**[www.rockwellautomation.com](http://www.rockwellautomation.com)**

### Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444  
Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640  
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Publication 1783-UM011B-EN-P - September 2017

Supersedes Publication 1783-UM011A-EN-P - April 2017

Copyright © 2017 Rockwell Automation, Inc. All rights reserved. Printed in the U.S.A.