

# ConneXium

Product data sheet

## Lite Managed Ethernet Switch - 4 Ports

### Description

The ConneXium TCSESL is a 4 port Lite Managed Ethernet Switch that supports Ethernet 10 Mbit/s and 100 Mbit/s Fast Ethernet communications over copper cable using RJ45 Connectors for distance of up to 100 meters

Lite managed switches are a cost effective and easy to use substitution for unmanaged switches in smaller networks, providing management, diagnostics, performance, and redundancy services. The use of managed switches in industrial Ethernet networks helps to stop data collisions and increase network performance and availability. Diagnostics helps to more easily reduce downtime and maintain operation by identifying inoperable devices in the network. Redundancy improves the reliability of the network by automatically reconfiguring the data traffic flow if a connection is lost.

This switch capabilities are configured using the built-in web pages to help simplify the network design and reduce the time to configure a network in industrial automation applications.

### Features

- > A managed Ethernet switch with user configurable services and features
- > Simple diagnostics to identify network issues and provide higher network availability
- > Compact package for mounting in small space
- > Supports line, star, mesh, or ring architectures
- > Supports a ring redundancy network architecture using the RSTP protocol for continuous data communications
- > Simple switch configuration using web browser
- > Switch configuration backup to a server or PC
- > High speed Ethernet communication rate – 10/100 Mb with auto sensing and auto-set for half/full duplex
- > Built-in 24 (9.6V to 32V) Vdc power supply
- > Low power consumption for reduced operating cost
- > IP 30 protection rated enclosure
- > Operating temperature range 0° to +50° C



## Models

The ConneXium TCSESL Lite Managed Ethernet Switches model information is listed below:

<b>TCSESL043F23F0</b>	4 Port Lite Managed Switch 4TX
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## Overview

The ConneXium model TCSESL043F23F0, Lite Managed Ethernet Switch is a layer 2 device that connects Ethernet devices to an Industrial Ethernet network. A description for the capabilities and features that are available with the ConneXium Managed Ethernet Switches is provided below.

### Management Features

**Web Management** - Enables switch configuration and diagnostics using a web based interface through a standard web browser.

**HTTPS** – For a secure connection to the switch using a web browser for switch configuration and file transfer

**SNMP V1/V2/V3** – For managing and monitoring the condition of managed switches on the network using an administrator computer.

**BOOTP**- A BOOTP server that assigns the IP parameters to the switch using its MAC address.

**DHCP** - A DHCP server that assigns the IP parameters to the switch.

**Ethernet Switch Configurator** – Enables the user to assign IP parameters to the switch.

### Diagnostic Features

**Log files** - HTML file that logs up to 2000 events with time stamp.

**LED Indicators** - For power, and link/activity

**Remote monitoring (RMON)** - A standard monitoring and protocol analysis of local area networks using a network management station that supports RMON probe functionality to monitor data at a switch port.

**LLDP IEEE 802.1ab Topology Discovery** - Enables the automatic detection and listing of the neighboring network devices and their connected ports for network topology mapping.

**Alarm traps** - Immediately reports unusual events by sending them to a management station that has been selected in the trap destination table with the management station via SNMP

### Redundancy Features

**Rapid Spanning Tree Protocol (RSTP)** - Industry standard redundancy protocol (IEEE 802.1d-2004) enabling deployment of ring and mesh network architectures, for high network availability.

**Security Features**

**Password protection** – Separate user-selected password for both the Administrator and User, which permits access to the Web page based interface

**Simple Network Management Protocol (SNMP) V3** – Security features included encryption of data packets, authentication of the message source, and message integrity to help protect against tampering during transmission.

**Disable unused ports** – On an individual port basis

**Switching**

**Filter by MAC addresses** – the switch learns the MAC address for the devices connected to each port

**QoS/Priority – Port Configuration** - to set the priority level (0 to 7) and trust mode for each port on the switch

**802.1D/p Mapping** – 4 levels

**TOS/ DSCP (Type of Service/ Differentiated Service Code Points)** - prioritization.

**Static Unicast/Multicast Filtering** – Up to 100 entries

**Technical Specifications**

Supply Voltage	24 Vdc
Operating Voltage Range	9.6 to 32 Vdc
Hold up time	Min 10 ms @ 20.4 Vdc
Power Consumption @ 24 VDC	2.35 Watts max.
Module Dimension	25 mm W x 114 mm H x 79 mm D (1.0 x 4.5 x 3.1 in.)
Weight	103g (.23lbs)
Operating Temperature	0 to 50° C (32 to 140°F)
Storage Temperature	-40 to 85° C (-40 to 185°F)
Relative Humidity	5- 95% non-condensing per IEC/EN60060-2-30Db
Protection	IP 30
Altitude	2000 m
Shock	IEC 60068-2-27, 15 g, 11 ms duration, 18 shocks
Vibration	IEC 60068-2-6, 3.5 mm, 5-8.4 Hz, 8.4 to 150 Hz, with 1 g
EMC Interference Immunity	EN 61000-4-2, -3,-4,-5,-6,

EMC Emitted Immunity	EN55022 Class A
	FCC 47CFR Part 15, Class A
Approvals	UL 61010-1/-2-201 (successor to UL508) CE Certificate
Conformance	RoHS Directive
LED Indicators	Device Status Data Rate (10/100 Mbit/sec) - 1 per port Data Link Status - 1 per port
MTBF	
TCSESL043F23F0	>497,250 hr. MIL-HDBK217F: 25°C GB

## Accessories

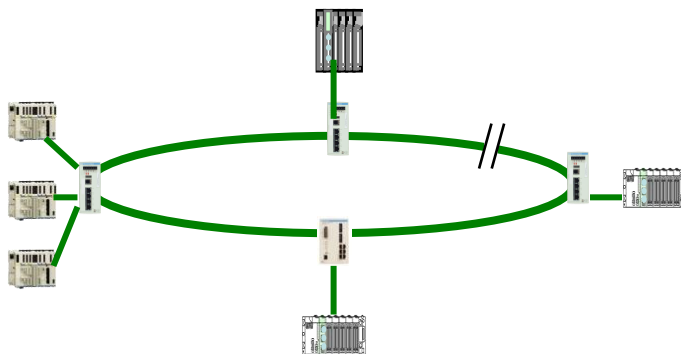
Cable	Part No.	Available Lengths (M)
TF Ethernet SFTP CAT5E RJ45 cables	490NTW000**	2, 5, 12, 40, 80
TF Ethernet SFTP CAT5E RJ45 crossed cables	490NTC000**	5, 15, 40, 80
Ethernet M12-RJ45 CE light duty cables	TCSECL1M3M**	1, 3, 10, 25, 40

\*\* = length in meters

## Network Architectures

A Lite managed switch can be deployed in many network architectures that used in industrial applications including star, tree, bus and mesh ring architectures. A ring type network architecture can be applied in applications to increase the network’s ability to recover from an inoperable device or cable break. The ConneXium Lite managed switch is a low cost device that includes the redundancy capability and RSTP protocol supports that has traditionally been available only in more expensive managed switches

Below is a network ring architecture that the ConneXium Lite Managed Switches currently support.



### Single Ring

A control network in a single ring structure that provides cable redundancy using RSTP.