

# 6-Port 100M/1G SFP Ethernet Expansion

## TC3842-5

- **6-Port 100/1000M SFP Ethernet**
- **Data Rate of Port Dependent on SFP Module**
- **Supports Single Mode, Multimode or Bi Directional One Fiber**
- **Remote Manageable with JumboSwitch® MGMT Card**
- **Temperature & Power Consumption Monitoring**
- **Extreme Temp (-40°C to +80°C) Optional**
- **Meets or Exceeds IEC 61850-3, IEEE 1613, & NEMA TS-2 Standards**
- **Member of the JumboSwitch® Product Family**



TC3842-5 Front Panel

**F**eaturing a wide range of advanced networking features, the TC3842-5 is a 6-Port 100M/1G SFP Ethernet Expansion card. It is compatible with both SFP optical and copper modules supports 850nm multimode and 1300/1550 single mode for distances up to 100km, and is available with a “one fiber, bi-directional” option to maximize fiber optic cable usage. As member of the JumboSwitch® family, this card increases the number of Ethernet ports of the chassis and expands the advanced network features which include:

- **Carrier Ethernet 2.0** including IEEE 802.3ah MAC Layer OAM, IEEE802.1ag Ethernet CFM and ITU-T Y.1731 Ethernet OAM.
- **Network Redundancy** using IEEE 802.1D Spanning Tree, ITU-T G.8031 Ethernet Linear Protection Switching and ITU-T G.8032v2 Ethernet Ring Protection Switching (ERPS)
- **Time Synchronization** with Network Time Protocol (NTP) and IEEE 1588v2 PTP.
- **VLAN, QoS and Rate Control** which allows network segregation, isolation, prioritization and bandwidth control.
- **Diagnostics** include Temperature and Power Monitoring, and RMON.
- **Management** via Web, SNMP, or Command Line Interfaces.
- **Security** features such as 802.1X, RADIUS/TACACS+, AAA, SNMPv3 and SSL provide both network and management security.
- **Durable and reliable operation.** The TC3842-5 is designed with extended temperature, shock/vibration, and surge ratings. And fits into available JumboSwitch® housing options which include the 1U, 2U, and 4U card cages. Standard operating temperature is -20°C to +70°C and extreme temperature version is -40°C to +80°C.

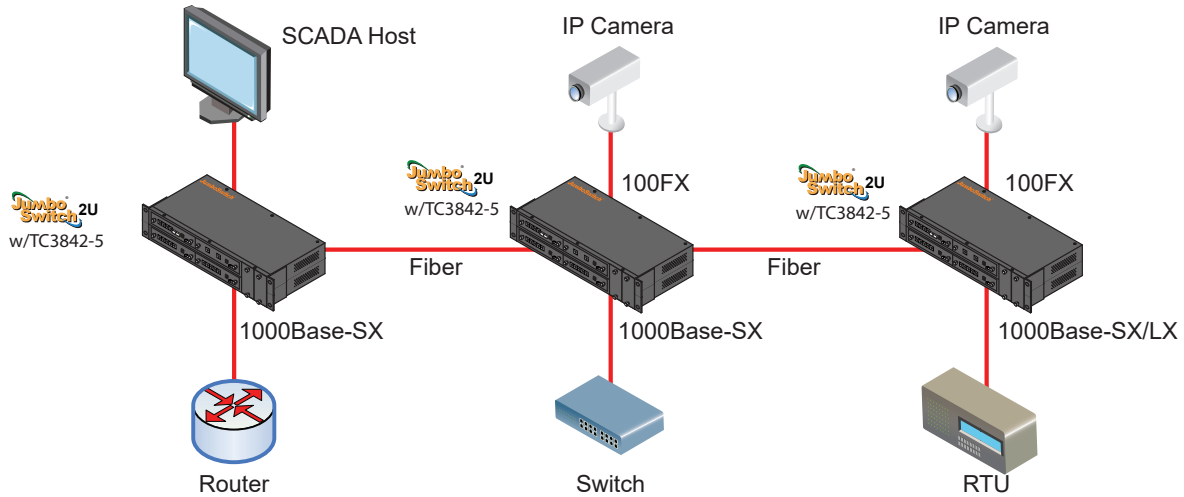
## Applications

With its ability to operate in the harshest of environments and its advanced networking features, the TC3842-5 is the perfect solution for virtually all Ethernet Switch applications encountered in the Industrial Automation, Utility and Transportation industries. It is also used by Data Service Providers to control the bandwidths they offer to their customers.

## Environmental & EMI Compliance

The JumboSwitch product family meets all pertinent industry-specific standards for environmental, performance and security requirements including IEC 61850-3, IEEE 1613, NEMA TS-2 and NERC CIP. Furthermore, future JumboSwitch family products will continue to be compliant with both existing and emerging industry standards and requirements, including developing Ethernet standards. Please refer to the charts below for specific standards compliance information.

	Tests	Industrial Standards	TC Communications - JumboSwitch Type Test and Levels	
			Power Supply Unit (PSU)	RJ-45 & Signal
Temperature/Humidity	Low Temperature Use	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-1; Ae; -40°C; 16 hour	
	Low Temperature Storage	IEC 61850-3, IEEE 1613, NEMA TS-2		
	High Temperature Use	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-2; Be; +80°C; 16 hour	
	High Temperature Storage	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-2; Bd; +85°C; 16 hour	
	Damp Heat	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-30; Db; +55°C; 95%; 96 hours	
Mechanical	Vibration	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-6; Fc; 3 - 150 Hz; 7.5 mm; 2 g; 10 sweeps per axis	
	Shock	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-27; Ea; 30g; 11ms	
ElectroMagnetic Compatibility	Electrostatic Discharge Immunity	IEEE 1613	IEC 61000-4-2; 8kV contact; 15 kV air	
	Radiated RF Immunity	IEC 61850-3, IEEE 1613	IEC 61000-4-3; 80 MHz - 1000 MHz; 20 V/m; AM 80% 1 kHz	
	EFT/Burst Immunity	IEC 61850-3, IEEE 1613	IEC 61000-4-4; 4 kV CM	IEC 61000-4-4; 4 kV CM
	Surge Immunity	IEC 61850-3	IEC 61000-4-5; 4 kV LG; 2 kV LL	IEC 61000-4-5; 4 kV LG; 2 kV LL
	Conducted RF immunity	IEC 61850-3	IEC 61000-4-6; 150 kHz - 80 MHz; 10 V; AM 80% 1 kHz	IEC 61000-4-6; 150 kHz - 80 MHz; 10 V; AM 80% 1 kHz
	Magnetic Field Immunity	IEC 61850-3	IEC 61000-4-8; 50 Hz; 100 A/m cont.; 1000 A/m 1 s	
	Damped Oscillatory Magnetic Field Immunity	IEC 61850-3	IEC 61000-4-10; 100 kHz; 30 A/m	
	Damped Oscillatory Magnetic Field Immunity	IEC 61850-3	IEC 61000-4-10; 1 MHz; 30 A/m	
Power Supply Unit (PSU) Variations	AC Voltage Dips	IEC 61850-3	IEC 61000-4-11; 30% & 100%, 0.5s	NA
	DC Voltage Dips	IEC 61850-3	IEC 61000-4-29; 40% & 70%, 0.1s	NA
	Damped Oscillatory Wave	IEC 61850-3	IEC 61000-4-12; 2.5 kV CM, 1.0 kV DM @1MHz	IEC 61000-4-12; 2.5 kV CM, 1.0 kV DM @ 1MHz
	Conducted PF CM Voltage	IEC 61850-3	IEC 61000-4-16; 50 Hz; 30 V cont.; 300 V 1s	IEC 61000-4-16; 50 Hz; 30 V cont.; 300 V 1s
	Conducted Emission	IEC 61850-3	CE/FCC/CISPR22 class A	CE/FCC/CISPR22 class A
	Conducted emission	IEC 61850-3	CE/FCC/CISPR22 class A	CE/FCC/CISPR22 class A
	Radiated emission	IEC 61850-3	CE/FCC/CISPR22 class A	
Dielectric	Dielectric 50 Hz Test	IEEE 1613	IEC 60255-5; 2 kV	IEC 60255-5; 0.5 kV
	Impulse Voltage Test	IEEE 1613	IEC60255-5; 5 kV	IEC 60255-5; 5 kV



Application Using TC3842-5 to Extend the Existing Gigabit Ethernet Network to the Remote Sites

**Data Rates**

SFP ..... 100M/1G

**Optical**

Wavelength

Multimode ..... 850/1300nm

Single Mode ..... 1300/1550nm

Connector ..... LC

Interface .... 1000 BASE-LX/SX, 100FX

**Copper**

Connector ..... RJ45

Interface ..... 1000 Base-T

**Regulatory Approval**

CE, FCC Part 15, CISPR (EN55022)

CLASS A, IEC 61850-3, IEEE 1613,

NEMA TS-2, EN50155, AREMA

**Diagnostic Functions**

Traffic Statistics

**LEDs**

PWR A, PWR B, VCC, MGM, ALARM,

LINK, SPEED

**Power**

Standard ..... 12VDC

Optional .... 24VDC, -48VDC, 125VDC

..... or 100-240VAC 50-60Hz

Power Consumption ..... <10W

**Operating Temperature**

High Temp ..... -20°C to 70°C

Extreme Temp ..... -40°C to 80°C

**Storage**

Temperature ..... -40°C to 90°C

Humidity ..... 95% non-condensing

**Physical (Standalone Unit 1S)**

Height ..... (3.89 cm) 1.53"

Width ..... (18.54 cm) 7.3"

Depth ..... (24.87 cm) 9.79"

Weight ..... (0.4 kg) 1.0 lbs



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Note - Information contained in this data sheet is subject to change without prior notice.

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